

NOTICE

All drawings located at the end of the document.



Rocky Flats Environmental Technology Site

RECONNAISSANCE LEVEL CHARACTERIZATION REPORT (RLCR)

CLOSURE PROJECT FOR BUILDINGS 334, T334B AND T334D

REVISION 0

October 11, 2002



CLASSIFICATION REVIEW NOT REQUIRED PER
EXEMPTION NUMBER CEX-005-02

Reviewed for Classification/UCNI
By: Janet Nesheim, Derivative Classifier
DOE, EMCBC
Date: 10-14-08
Confirmed Unclassified, Not UCNI

ADMIN RECORD

LA-A-001180

✓ 165

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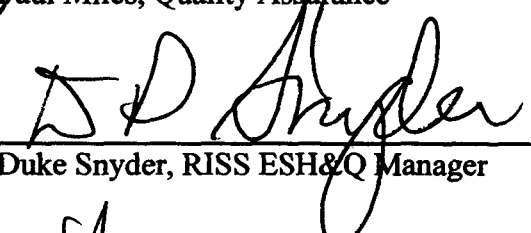
October 11, 2002

Reviewed by:


Paul Miles, Quality Assurance

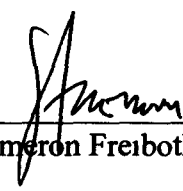
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ABBREVIATIONS/ACRONYMS

ACM	Asbestos containing material
Be	Beryllium
CDPHE	Colorado Department of Public Health and the Environment
CERCLA	Comprehensive Emergency Response, Compensation and Liability Act
DCGL _{EMC}	Derived Concentration Guideline Level – elevated measurement comparison
DCGL _w	Derived Concentration Guideline Level – Wilcoxon Rank Sum Test
D&D	Decontamination and Decommissioning
DDCP	Decontamination and Decommissioning Characterization Protocol
DOE	U S Department of Energy
DPP	Decommissioning Program Plan
DQA	Data quality assessment
DQOs	Data quality objectives
EPA	U S Environmental Protection Agency
FDPM	Facility Disposition Program Manual
HVAC	Heating, ventilation, air conditioning
HSAR	Historical Site Assessment Report
IHSS	Individual Hazardous Substance Site
IWCP	Integrated Work Control Package
K-H	Kaiser-Hill
LBP	Lead-based paint
LLW	Low-level waste
MARSSIM	Multi-Agency Radiation Survey and Site Investigation Manual
MDA	Minimum detectable activity
MDC	Minimum detectable concentration
NORM	Naturally occurring radioactive material
NRA	Non-Rad-Added Verification
OSHA	Occupational Safety and Health Administration
PARCC	Precision, accuracy, representativeness, comparability and completeness
PCBs	Polychlorinated Biphenyls
PDS	Pre-demolition survey
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RFCA	Rocky Flats Cleanup Agreement
RFETS	Rocky Flats Environmental Technology Site
RFFO	Rocky Flats Field Office
RLC	Reconnaissance Level Characterization
RLCR	Reconnaissance Level Characterization Report
RSP	Radiological Safety Practices
SVOCs	Semi-volatile organic compounds
TCLP	Toxicity Characteristic Leaching Procedure
TSA	Total surface activity
VOCs	Volatile organic compounds

EXECUTIVE SUMMARY

A Reconnaissance Level Characterization (RLC) was performed to enable facility "Typing" per the DPP (10/8/98) and compliant disposition and waste management of Buildings 334, T334B, and T334D. Because these facilities were anticipated to be Type 1 facilities, the characterization was performed in accordance with the Pre-Demolition Survey Plan (MAN-127-PDSP). All facility surfaces were characterized in this RLC, including the interior and exterior surfaces [i.e., equipment, floors (slabs), walls, ceilings and roofs]. Environmental media beneath and surrounding the facility was not within the scope of this RLCR and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

The RLC encompassed both radiological and chemical characterization to enable compliant disposition and waste management pursuant to the D&D Characterization Protocol (MAN-077-DDCP). The characterization built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Reports.

Results indicate that no radiological contamination exists in excess of the PDSP unrestricted release limits of DOE Order 5400.5. Both friable and non-friable asbestos containing building materials were identified in Building 334. Bulk samples from T334B and T334D of building materials suspected of containing asbestos were "None Detected". All beryllium sample results were less than 0.1 $\mu\text{g}/100\text{cm}^2$. Fluorescent light ballasts may contain PCBs. PCB ballasts and asbestos containing materials will be managed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations. Demolition debris will be managed in compliance with regulations governing PCBs (40 CFR 761), and Environmental Compliance Guidance #27, *Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal*, as applicable. Concrete associated with these facilities meet the criteria for recycling concrete per the RFCA RSOP for Recycling Concrete.

Based upon this RLCR, Buildings 334, T334B, and T334D are considered to be Type 1 facilities. To ensure that the facilities remain free of contamination and that RLC data remain valid, isolation controls have been established, and the facilities have been posted accordingly.

1 INTRODUCTION

A Reconnaissance Level Characterization (RLC) was performed to enable compliant disposition and waste management of Buildings 334, T334B and T334D. Because these facilities were anticipated to be Type 1 facilities, a PDS characterization was performed. All facility surfaces were characterized in this RLC, including the interior and exterior surfaces of the facilities [i.e., equipment, floors (slabs), walls, ceilings and roofs]. Environmental media beneath and surrounding the facility was not within the scope of this RLC Report (RLCR) and will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

As part of the Rocky Flats Environmental Technology Site (RFETS) Closure Project, numerous facilities will be removed, among these are Buildings 334, T334B and T334D. The locations of these facilities are shown in Attachment A. These facilities no longer support the RFETS mission and need to be removed to reduce Site infrastructure, risks and/or operating costs.

Before these facilities can be removed, a Pre-Demolition Survey (PDS) must be conducted; this document presents the PDS results. The PDS was conducted pursuant to the Decontamination and Decommissioning Characterization Protocol (MAN-077-DDCP) and the Pre-Demolition Survey Plan for D&D Facilities (MAN-127-PDSP). The PDS built upon physical, chemical and radiological hazards identified in the facility-specific Historical Site Assessment Report.

1.1 Purpose

The purpose of this report is to communicate and document the results of the PDS effort. PDSs are performed before building demolition to define the final radiological and chemical conditions of a facility. Final conditions are compared with the release limits for radiological and non-radiological contaminants. PDS results will enable project personnel to make final disposition decisions, develop related worker health and safety controls, and estimate waste volumes by waste types.

1.2 Scope

This report presents the final radiological and chemical conditions of Buildings 334, T334B and T334D. Environmental media beneath and surrounding the facility are not within the scope of this RLCR and will be addressed using the Soil Disturbance Permit process and in compliance with RFCA.

1.3 Data Quality Objectives

The Data Quality Objectives (DQOs) used in designing this RLC were the same DQOs identified in the Pre-Demolition survey Plan for D&D Facilities (MAN-127-PDSP). Refer to section 2.0 of MAN-127-PDSP for these DQOs.

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2 HISTORICAL SITE ASSESSMENT

A Facility-specific Historical Site Assessment (HSA) was conducted to understand the facility histories and related hazards. The assessment consisted of facility walkdowns, interviews, and document review, including review of the Historical Release Report (refer to the D&D Characterization Protocol, MAN-077-DDCP). Results were used to identify data gaps and needs, and to develop radiological and chemical characterization packages. Results of the facility-specific HSA were documented in a facility-specific Historical Site Assessment Report (HSAR). Refer to Attachment B for a copy of the Buildings 334, T334B and T334D HSAR. In summary, the HSAR identified minimal potential for radiological and chemical hazards, except the potential for asbestos containing materials and PCBs in paint and light ballasts.

3 RADIOLOGICAL CHARACTERIZATION AND HAZARDS

Buildings 334, T334B and T334D were characterized for radiological hazards per the PDSP. Radiological characterization was performed to define the nature and extent of radioactive materials that may be present on the facility surfaces. Measurements were performed to evaluate the contaminants of concern. Based upon a review of historical and process knowledge, building walk-downs, and MARSSIM guidance, Radiological Characterization Plans were developed during the planning phases that describe the minimum survey requirements (refer to the RISS Characterization Project files).

Seven radiological survey packages were developed for the interior and exterior of Buildings 334, T334B and T334D including fixed equipment. The survey packages were developed in accordance with Radiological Safety Practices (RSP) 16.01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation and Closure*. Total surface activity (TSA), removable surface activity (RSA), media samples, and scan measurements were collected in accordance with RSP 16.02 *Radiological Surveys of Surfaces and Structures*. Radiological survey data were verified, validated and evaluated in accordance with RSP 16.04, *Radiological Survey/Sample Data Analysis*. Quality control measures were implemented relative to the survey process in accordance with RSP 16.05, *Radiological Survey/Sample Quality Control*. Radiological survey data, statistical analysis results, and survey locations are presented in Attachment C, Radiological Data Summary and Survey Maps. The radiological survey unit packages are maintained in the RISS Characterization Project files.

TSA measurements, RSA measurements, and scan surveys were performed on the interior and exterior of each facility, as well as on fixed equipment. The PDS data confirmed that the facility does not contain radiological contamination above the surface contamination guidelines provided in the PDSP. Isolation control postings are displayed on the buildings to ensure no radioactive materials are introduced.

Initial surveys at or near several locations on the exteriors of T334B and B334 indicated elevated activity. Subsequent investigations showed that all of the elevated activity meets the PDSP unrestricted release limits for both transuranics and uranium. Refer to the applicable data summaries in Attachment C, Radiological Data Summary and Survey Maps, for details on the investigation results.

4 CHEMICAL CHARACTERIZATION AND HAZARDS

Buildings 334, T334B and T334D were characterized for chemical hazards per the PDSP. Chemical characterization was performed to determine the nature and extent of chemical contamination that may be present on or in these facilities. Based upon a review of historical and process knowledge, visual inspections, and PDSP DQOs, additional sampling needs were determined. Chemical Characterization Packages (refer to RISS Characterization Project files) were developed during the planning phases that describe sampling requirements and the justification for the sample locations and estimated sample numbers. Contaminants of concern included asbestos, beryllium, RCRA/CERCLA constituents, and PCBs. Refer to Attachment D, Chemical Data Summaries and Sample Maps, for details on sample results and sample locations.

4.1 Asbestos

Sitex Environmental Inc. conducted a comprehensive asbestos inspection of Building 334 dated April 22, 1996 (refer to Sitex report in Attachment D). The Sitex report identified the following friable and non-friable asbestos containing building materials: 12" vinyl floor tiles and adhesive, 9" vinyl floor tiles and adhesive, thermal systems insulation, interior and exterior Transite wall panels, Transite counter tops, vibration isolators, black tar roof flashing, and non-skid pad on roof.

In addition to the Sitex collected data, bulk sampling results of the window caulking and the acoustical drop ceiling tiles was performed and results were positive for asbestos (>1% by volume). All bulk samples of building materials suspected of containing friable or non-friable asbestos in T334B and T334D were "None Detected". The additional sampling of building materials suspected of containing asbestos was conducted in the aforementioned buildings in accordance with the PDSP. A CDPHE-certified asbestos inspector conducted the inspection and sampling in accordance with the *Asbestos Characterization Protocol, PRO-563-ACPR, Revision 1*. Building materials suspected of containing asbestos were identified for sampling at the discretion of the inspector.

Asbestos laboratory analysis data and location maps are contained in Attachment D, "Chemical Data Summaries and Sample Maps". Asbestos containing material waste volume estimates and types are contained in Section 7 of this report. Maps that did not contain any sample locations were not included in this report.

4.2 Beryllium (Be)

Based on the HSAR and personnel interviews, these buildings were anticipated Type 1 facilities. There was not, however, adequate historical and process knowledge to conclude that beryllium was not used or stored in these buildings. Therefore, biased beryllium sampling was performed in accordance with the PDSP and the *Beryllium Characterization Procedure, PRO-536-BCPR, Revision 0, September 9, 1999*. Biased sample locations corresponded with the most probable areas of dust accumulation (including beryllium dust), assuming airborne deposition.

All beryllium smear sample results were less than $0.1 \mu\text{g}/100\text{cm}^2$. Beryllium laboratory sample data and location maps are contained in Attachment D, "Chemical Data Summaries and Sample Maps." Maps that did not contain any sample locations were not included in this report.

4.3 RCRA/CERCLA Constituents [including metals and volatile organic compounds (VOCs)]

Based on a review of the HSAR and facility walkdowns, the only facility in this group that contained potential RCRA/CERCLA contamination was B334. Building 334 functioned as a maintenance shop and various construction/maintenance chemicals and materials were used and stored in the facility. Building 334 was also used to accumulate universal and RCRA waste items. A visual inspection of the facility did not indicate that these past uses have left the structure with any residual contamination. The oil storage area on the East dock has a significant amount of oil on the slab. Until August 2002, the oil stored in this room was not waste oil, only new oil that is not a RCRA/CERCLA concern. One drum of waste oil from Building 443 was moved into the room in August, 2002. This drum is not suspected of having any RCRA concerns, and has not leaked, spilled, or contributed to the oil on the slab. Due to the above stated rationale, sampling was not performed in these facilities.

Sampling for lead in paint in these facilities was not performed. Environmental Waste Compliance Guidance #27, *Lead-based Paint (LBP) and Lead-based paint Debris Disposal*, states that LBP debris generated outside of currently identified high contamination areas shall be managed as non-hazardous (solid) wastes, and additional analysis for characteristics of hazardous waste derived from LBP is not a requirement for disposal.

These facilities may contain RCRA regulated materials such as mercury switches and leaded glass. A thorough inspection of the facility will be made, and all regulated materials will be removed, prior to demolition.

4.4 Polychlorinated Biphenyls (PCBs)

Based on a review of the HSAR and a facility walkdown, the only facility in this group that contains potential PCB contamination is B334. Building 334 functioned as a maintenance shop and various construction/maintenance chemicals and materials were used and stored in the facility. Although PCBs were not specifically a part of the 334 process, it is possible that equipment containing PCBs was brought through the building for maintenance at some time. Building 334 was also used to accumulate PCB ballasts removed as part of maintenance activities. A visual inspection of the facility did not indicate that these past uses have left the structure with any residual contamination. The oil storage area on the East dock has a significant amount of oil on the slab. However, until August 2002, the oil stored in this room was not waste oil, only new oil that did not contain PCBs. One drum of waste oil from Building 443 was moved into the room in August, 2002. This drum is not suspected of having any PCB concerns, and has not leaked, spilled, or contributed to the oil on the slab. Due to the above stated rationale, sampling was not performed in these facilities.

Based on the age of B334 (constructed prior to 1980), paints used may contain PCBs, and painted surfaces will need to be disposed of PCB Bulk Product Waste. Painted concrete surfaces can be used as backfill on site in accordance with approval received from EPA in November 2001 (letter from K. Clough, US EPA Region 8, to J. Legare, DOE RFFO, 8EPR-F, Approval of the Risk-Based Approach for Polychlorinated Biphenyls (PCB)-Based Painted Concrete), provided the concrete meets the unrestricted-release criteria outlined in the Concrete Recycling RSOP. T334B and T334D were constructed after 1980, and paints are not suspected of containing PCBs.

Because these facilities may contain fluorescent light ballasts containing PCBs, fluorescent light fixtures will be inspected to identify PCB ballasts during removal operations. PCB ballasts will be identified based on factors such as labeling (e.g., PCB-containing and non-PCB-containing), manufacturer, and date of manufacturing. All ballasts that do not indicate non-PCB-containing are assumed to be PCB-containing.

5 PHYSICAL HAZARDS

Physical hazards associated with Buildings 334, T334B and T334D are common to standard industrial environments and include hazards associated with energized systems, utilities, and trips and falls. Refer to the Site Safety Analysis Report (PADC-1998-00662), including Volume 2, Facility Safety Analysis, Building 334. A unique item to B334 is that rein-forced concrete pads are embedded in the slab where heavy maintenance machinery was located. The rein-forced concrete pads are several feet thick. The facilities have been relatively well maintained and are in good physical condition, and therefore, do not present hazards associated with building deterioration. Physical hazards are controlled by the Site Occupational Safety and Industrial Hygiene Program, which is based on OSHA regulations, DOE orders, and standard industry practices.

6 DATA QUALITY ASSESSMENT

Data used in making management decisions for decommissioning of Building 334, T334B and T334D and consequent waste management, are of adequate quality to support the decisions documented in this report. The data presented in this report (Attachments C and D) were verified and validated relative to DOE quality requirements, applicable EPA guidance, and original DQOs of the project.

In summary, the Verification and Validation (V&V) process corroborates that the following elements of the characterization process are adequate:

- ◆ the *number* of samples and surveys,
- ◆ the *types* of samples and surveys,
- ◆ the sampling/survey process as implemented "in the field", and,
- ◆ the laboratory analytical process, relative to accuracy and precision considerations.

Details of the DQA are provided in Attachment E.

7 DECOMMISSIONING WASTE TYPES AND VOLUME ESTIMATES

The demolition and disposal of Buildings 334, T334B and T334D will generate a variety of wastes. Estimated waste types and waste volumes are presented below. All wastes can be disposed of as sanitary waste, except asbestos containing material and PCB Bulk Product Waste. There is no radioactive or hazardous waste. Asbestos and PCB ballasts will be managed pursuant to Site asbestos and PCB abatement and waste management procedures.

Waste Volume Estimates and Material Types							
Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste
334	85,500	0	5,900	0	1,800	Floor Tile – 8,592 square feet, 358 cubic feet (Category 1 Non-friable) Thermal Systems Insulation – 4,586 lineal feet, 764 cubic feet (Friable) Transite wall panels – 7,930 square feet, 1,321 cubic feet (Category 2 Non-Friable) Transite Counter Tops – 100 square feet, 16 cubic feet (Category 2 Non-Friable) Vibration Isolators – 250 square feet, 21 cubic feet (Friable) Roof Flashing – 1,639 square feet, 546 cubic feet (Category 1 non-Friable) Window Caulking – 4,918 lineal feet, 204 cubic feet (Category 2 Non-Friable) Acoustical Drop Ceiling Tiles – 9,240 square feet, 770 cubic feet (Friable)	Built-up roofing 3,600 cu ft
T334B	0	400	500	800	1,000	0	0
T334D	0	275	250	350	450	0	0

(1)

8 FACILITY CLASSIFICATION AND CONCLUSIONS

Based on the analysis of radiological, chemical and physical hazards, Buildings 334, T334B and T334D are classified as RFCA Type 1 facilities pursuant to the RFETS Decommissioning Program Plan (DPP, K-H, 1999). The Type 1 classification is based on a review of historical and process knowledge, and newly acquired RLC data.

The RLC of B334, T334B and T334D was performed in accordance with the DDCP and PDSP, all PDSP DQOs were met, and all data satisfied the PDSP DQA criteria. The facilities do not contain radiological or hazardous wastes. PCB ballasts and asbestos containing materials will be managed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of Public Health and Environment (CDPHE) regulations. Demolition debris will be managed in compliance with regulations governing PCBs (40 CFR 761), and Environmental Compliance Guidance #27, *Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal*, as applicable. Concrete associated with these facilities meet the criteria for recycling concrete per the RFCA RSOP for Recycling Concrete. Environmental media beneath and surrounding the facilities will be addressed at a future date using the Soil Disturbance Permit process and in compliance with RFCA.

To ensure that these Type 1 facilities remain free of contamination and that RLC data remain valid, isolation controls have been established, and the facilities are posted accordingly.

9 REFERENCES








- DOE/RFEO, CDPHE, EPA, 1996. Rocky Flats Cleanup Agreement (RFCA), July 19, 1996
- DOE Order 5400.5, "Radiation Protection of the Public and the Environment"
- EPA, 1994 "The Data Quality Objective Process," EPA QA/G-4
- K-H, 1999 Decommissioning Program Plan, June 21, 1999.
- MAN-131-QAPM, *Kaiser-Hill Team Quality Assurance Program*, Rev. 1, November 1, 2001
- MAN-076-FDPM, *Facility Disposition Program Manual*, Rev 3, January 1, 2002
- MAN-077-DDCP, *Decontamination and Decommissioning Characterization Protocol*, Rev 3, July 15, 2002
- MAN-127-PDSP, *Pre-Demolition Survey Plan for D&D Facilities*, Rev 1, July 15, 2002
- MARSSIM - Multi-Agency Radiation Survey and Site Investigation Manual, December 1997 (NUREG-1575, EPA 402-R-97-016)
- PRO-475-RSP-16 01, *Radiological Survey/Sampling Package Design, Preparation, Control, Implementation, and Closure*, Rev 1, May 22, 2001
- PRO-476-RSP-16 02, *Pre-Demolition (Final Status) Radiological Surveys of Surfaces and Structures*, Rev 1, May 22, 2001
- PRO-477-RSP-16 03, *Radiological Samples of Building Media*, Rev 1, May 22, 2001
- PRO-478-RSP-16 04, *Radiological Survey/Sample Data Analysis for Final Status Survey*, Rev 1, May 22, 2001
- PRO-479-RSP-16 05, *Radiological Survey/Sample Quality Control for Final Status Survey*, Rev 1, May 22, 2001
- PRO-563-ACPR, Asbestos Characterization Procedure, Revision 0, August 24, 1999.
- PRO-536-BCPR, Beryllium Characterization Procedure, Revision 0, August 24, 1999
- RFETS, Environmental Waste Compliance Guidance #25, Management of Polychlorinated Biphenyls (PCBs) in Paint and Other Bulk Product Waste During Facility Disposition
- RFETS, Environmental Waste Compliance Guidance #27, Lead-Based Paint (LBP) and Lead-Based Paint Debris Disposal
- RFCA Standard Operation Protocol for Recycling Concrete, September 28, 1999
- RFETS, Historical Site Assessment Report for Buildings 334, T334B and T334D February 2002

ATTACHMENT A

Facility Location Map

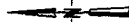
Building Cluster 334, T334B, & T334D

Standard Map Features

-  Buildings and other structures
-  Solar Evaporation Ponds (SEPs)
-  Lakes and ponds
-  Streams, ditches, or other drainage features
-  Fences and other barriers
-  Paved roads
-  Dirt roads

DATA SOURCE BASE FEATURES

Building fences, hydrography roads and other structures from 1994 aerial fly-over data captured by EG&G ISI, Las Vegas. Digitized from the orthophotograph 1/95



Scale - 1:12440
1 inch represents approximately 1038 feet

Legend
State Plane Coordinate Projection
Colorado Central Zone
Datum: NAD27

U.S. Department of Energy
Rocky Flats Environmental Technology Site

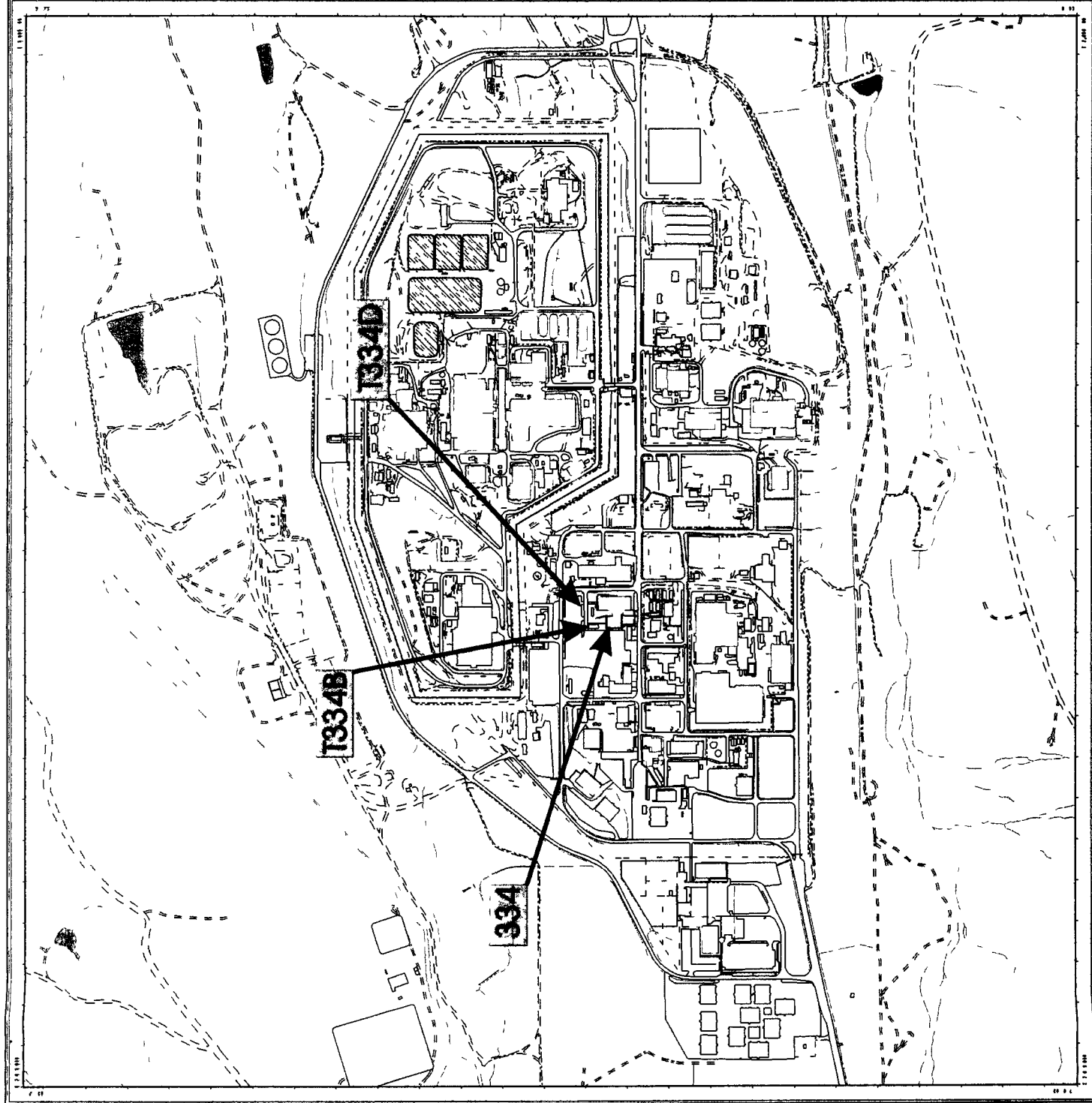
Prepared for
Kaiser T&E

Prepared by
DynCorp
THE ART OF TECHNOLOGY

MAP ID: FY 2002

October 9, 2002

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ATTACHMENT B

Historical Site Assessment Report

**D&D RISS Facility Characterization
Historical Site Assessment Report
February, 2002 Rev. 0**

Facility ID: Buildings 331, C331, 331F, 331S, 334, T334B, T334D, and 335.

Anticipated Facility Type (1, 2, or 3) Buildings 331, C331, 331F, 331S, 334, T334B, T334D, and 335 are anticipated Type 1 facilities.

This facility-specific Historical Site Assessment (HSA) has been performed in accordance with
D&D Characterization Protocol, RFETS MAN-077-DDCP, latest version, and
Facility Disposition Program Manual, RFETS MAN-076-FDPM, latest version

Physical Description

Building 331

Building 331 is the Fire Station and Vehicle Maintenance Garage. This building is a two-story structure built in 1953 and has a total of 23,540 sq ft of floor space. Building 331 has had three additions to its original structure. In 1960 a 400 sq ft. addition was added to the west of Room 114. In 1967 a 400 sq ft. tool shed was added to the north side of the 1960 addition. In 1968 a 2,400 sq ft. addition was added to provide additional office space and off-shift living quarter for the RFETS fireman.

The roof is constructed of concrete panels covered with built up roofing. The walls of the original building are constructed of re-enforced concrete, the 1960 addition is constructed of enforced concrete, the 1967 addition is constructed of corrugated metal walls on a steel from, and the 1968 addition is constructed of cinder blocks. The floors are poured concrete on grade.

Building 331 is serviced by the following utilities, water, sanitary, electric, and steam heat. An overhead sprinkler system and wall-mounted fire extinguishers provide fire protection.

Building C331

Building C331 is an 800 sq ft. structure placed into service in 1975. The structure is made up of two cargo containers spaced approximately 20 ft. apart, with a roof supported by the cargo containers. The north and south walls are made of plywood with a man entrance on the south end of the building and a roll-up door on the north end of the building. The east and west walls are the sides of the cargo containers. The roof is constructed of wood covered with asphalt shingles and no insulation. The floor is a concrete slab poured on grade.

Building C331 is serviced by the following utilities. electrical and fire protection is provided by wall mounted fire extinguishers.

Building 331F

Building 331F is the fuel filling station and was constructed in 1996. Building 331F consists of a 54 sq ft light metal frame building designed to house a filling station attendant (currently used to store supplies) and 5 gas station style fuel pumps built on a concrete slab, which acts as a parking area for vehicles being fueled. Building 33F has 5 underground fuel tanks (TK-5A, TK-5B, TK-6A, TK-7A and TK-8A).

Building 331F has the following utilities. electrical and fire protection is provided by wall mounted fire extinguishers.

**D&D RISS Facility Characterization
Historical Site Assessment Report
February, 2002 Rev. 0**

Building 331S

Building 331S is made up of 5 cargo containers placed in a row and a wooden open-ended enclosure used for storage on the east side of the cargo containers. The metal enclosure has metal side with wooden support members and a metal roof. This facility is built on an asphalt pad north of Building 331.

Building 331S has the following utilities, electric and fire suppression is provided by a wall-mounted fire extinguisher.

Building 334

Building 334 is the General Office and Maintenance Shop Facility and was built in 1953. This building has 42,960 sq. ft. of floor space, including the mezzanine. Building 334 has had two additions to the original structure. In 1970 a 6,000 sq. ft. addition was added to the east side of the original structure, and in 1985 a 3,200 sq. ft. addition was added to the north side of the 1970 addition.

The roof is constructed of concrete panel covered with built up roofing. The wall of the original building are constructed of re-enforced concrete, the 1970 addition is re-enforced concrete, and the 1985 addition is constructed of cinder blocks. The floors are poured concrete on grade.

Building 334 is serviced by the following utilities, water, sanitary, electric, and steam heat. Fire protection is provided by an overhead sprinkler system and wall-mounted fire extinguishers.

Building T334B

Building T334B is a 1960 sq. ft. General Office Trailer purchased in 1984. T334B has corrugated metal siding with a metal roof. T334B has hard walled offices and a large conference area in the center.

Trailer T334B is serviced by the following utilities, electric, fire protection is provided by an overhead sprinkler system and wall mounted fire extinguishers.

Building T334D

Building T334D is a 600 sq. ft. General Office Trailer purchased in 1990. T334B has corrugated metal siding with a metal roof. T334B has hard walled offices on both ends and a central work area divided into cubicles.

Trailer T334D is serviced by the following utilities, Electric, and fire protection is provided by an overhead sprinkler system and wall mounted fire extinguishers.

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Building 335

Building 335 is the fire training building and was constructed in 1969. Building 335 is a 2,160 sq ft metal frame building with corrugated metal sides and roof, built on a concrete slab. The west section of the building was added in 1973. Tank 115 is a propane tank located north of the building and is used to provide an ignition source during the fire training exercises. On the north side of Building 335 is an 8 ft by 15 ft. metal carbon dioxide fire extinguisher filling station constructed on a concrete pad. The carbon dioxide filling station was purchased as a used piece of equipment (likely manufactured in the 1960s) and installed in the early 1980s, and has been out of service since 1995.

Building 335 is serviced by the following utilities: electric, water, and fire protection. Fire protection is provided by wall mounted fire extinguishers. The east side of the structure has an overhead sprinkler system, which is used for fire training purposes only.

Historical Operations

Building 331

Building 331 houses both the site vehicle maintenance garage and the site fire department. This facility was constructed in 1953 and has had several additions, which are documented in the building description section above.

The garage portion of Building 331 houses the vehicle maintenance garage. RFETS vehicles and equipment with small engines are maintained in the Building 331 garage. Occasionally spills of gasoline, oil, and antifreeze occur and are cleaned-up using an absorbent. This absorbed waste is disposed of in accordance with waste operations guidelines. Used antifreeze, oils, and lead-acid batteries are sent off site for re-cycle.

Rooms 113, 114, 115, 116, and 117 were used from 1953 to 1968 as a small metallurgical R & D laboratory, which handled some depleted uranium material. This laboratory was stripped out and converted to a storage area and a work area for the garage in 1968. An old sanitary drain, which was covered with a steel plate, has the following label: "Radioactive contamination in sanitary drain, 3-21-77" still remains in Room 114 of the garage area. Building 331 has no process waste lines.

The Fire Department portion of Building 331 is used to house fire equipment and trucks, as well as office space and off-shift living quarters for the RFETS fireman. This facility is used to clean fire response equipment, to perform self-contained breathing apparatus (SCBA) maintenance, and Haz Mat spill control equipment.

The most common spills that the HazMat team responds to are oil, antifreeze, hydraulic fluid, and gasoline and diesel fuel. Spill clean-up material prior to the mid 1980s was staged in hose tower basin (with a french drain) prior to disposal. Spill clean-up material is currently handled on a case-by-case basis at the directions of waste operations personnel. See the Building 331 WISRC for additional Building 331 waste stream descriptions. See the Historical Operation section for Building 331F for a discussion on the history of the filling station originally located south of Building, later moved to the north side of Building 331, and foamed in place in 1996.

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Building C331

Building C331 is constructed with two cargo containers placed about 20 feet apart and a roof connecting the two cargo containers. The cargo containers and the work area between the cargo containers is used to store grounds keeping equipment and supplies such as lawn tractors, weed-whackers, hand tools, and other grounds keeping supplies and equipment.

Building 331F

Building 331F is the new filling station and is used to fill RFETS vehicle with fuel (diesel and gas). Building 331F consists of a small metal frame building designed to house a filling station attendant (currently used to store supplies), and 5 gas station style fuel pumps located on a concrete slab, which acts as a parking area for vehicles being fueled. Building 331F has 5 underground fuel tanks (TK-5A, TK-5B, TK-6A, TK-7A and TK-8A).

Building 331F was constructed to replace the old filling station that was located just north of Building 331. The old filling station was removed when the new station was constructed in 1996. The old filling station tanks were cleaned and foamed in place in 1996. The tank numbers for the old filling station are Tanks 101, 102, 103, 104.

The original filling station (constructed in 1953) was located south of Building 331. In the late 1950s the original filling station was moved to the north side of Building 331 and is referred to as the old filling station (documented above). The tanks were believed to have been excavated and moved to the new location north of Building 331 in the late 1950s. There is no documentation indicating that the original tanks are still in place on the north side of Building 331.

Building 331S

Building 331S is made up of 4 cargo containers placed in a row and a metal open-ended enclosure that stores used tires, new drummed product (mostly oils), and some non-regulated used absorbent containing spilled liquids (diesel and oils). Liquid drums are placed on a secondary containment pallet. The material stored here is not RCRA regulated. The cargo containers are used to store spare parts and tires for the maintenance of the RFETS fleet of equipment by Building 331 personnel.

Building 334

Building 334 is the primary RFETS maintenance facility. This building has both offices and shops to support maintenance activities at RFETS. These activities include electrical, carpentry, sheet metal work, pipe fitting, HVAC, glass shop, machining, welding and an instrument shop (a.k.a. Standards Lab). Wastes such as used oils, hydraulic fluids, and coolants are put in appropriate waste containers then processed through waste operations group for disposition. In the 1960s, several pieces of equipment, from Building 444 and 881, were installed in the Buildings 334 machine shop. When this equipment was removed in the 1980s, radiological contamination was found in and under some of this machinery in the machine shop. See the Building 334 WISRC for additional Building 334 waste stream descriptions. On a few occasions in the 1960s, uranium parts were escorted to building 334 for some specialty machine work. After this work was performed the machines were cleaned and the area surveyed.

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Trailer T334B

Trailer T334B is a general office trailer used by the RFETS Roads and Ground Department. Prior to becoming the general office trailer for Roads and Grounds personnel in 1999, the trailer was used as a general office trailer for PU&D. This trailer has historically always been used as a general office support trailer since it came on site in 1984.

Trailer T334D

Trailer T334D is a general office trailer used to house fire department support personnel. This trailer has historically always been used as a general office trailer since it came on site in 1990.

Building 335

Building 335 is used for fire training exercises and fire extinguisher maintenance activities. The building is partitioned in the center. The east portion of the building is used for fire training purposes and is lined with wallboard. Several times a year, fires were started in the east side of the building to study fire behavior and to provide training in the extinguishing of fires. This practice stopped in the 1980s. The walls and ceiling are covered with smoke residue from the training exercises. Source material used in the training exercises were actual waste streams from Building 444 and other facilities in the 400 area. The wastes included oils, solvents, pyrophoric metals, and on occasions, depleted uranium.

The west side of the building was used to re-charge and maintain fire extinguishers for RFETS. These fire extinguishers were located in all areas of the plant. On several occasions in the 1980s, fire extinguishers in the building for maintenance were found to be radiologically contaminated. Chemicals used to fill fire extinguishers include carbon dioxide, halon, nitrogen, mono-ammonium phosphate, and sodium chloride. See the Building 335 WISRC for additional Building 335 waste stream descriptions.

Current Operational Status

Buildings 331, C331, 331F, 331S, 334, and 335 are all currently operational. Building 335 is in the process of having the equipment stripped out to begin D&D activities.

Contaminants of Concern

Asbestos

Describe any potential, likely, or known sources of Asbestos

The IH group in Trailer T130B has an Asbestos Inspection Plan and Operations Maintenance Plan for Buildings 331 and 334, that summarized some general historical asbestos data. The Trailer Asbestos Management Program Baseline summarized some general T334B and T334D historical asbestos data.

The remaining facilities in the HSA have no known comprehensive asbestos surveys.

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Beryllium (Be)

Describe any potential, likely, or known Be production or storage locations

The only building addressed in this HSA on the List of known Be areas is Building 331 (Rooms 114 and 117), which is listed because of its historical use as a metallurgical laboratory involving some beryllium operations. In the past, the fire Department side of Building 331 has, on occasion, had a positive hit for beryllium on fire fighting equipment, which has entered beryllium areas. When beryllium contamination was detected on equipment, the equipment was always cleaned. The fire department side of Building 331 is not known to have any current Beryllium contamination problems.

Summarize any recent Be sampling results

No recent Be samples collected on any of these facilities

Lead

Describe any potential, likely, or known sources of Lead (e.g., paint, shielding, etc.)

Lead in paint and lead in electrical equipment may be a concern for some of the facilities in this HSA due to the age of construction. Lead shielding was not known to have been used in any of these facilities.

See the section below for RCRA/CERCLA constituents for lead in waste stream references related to these buildings.

RCRA/CERCLA Constituents

Describe any potential, likely, or known sources of RCRA/CERCLA constituents (e.g., chemical storage, waste storage, and processes)

Building 331, C331, and 334 have had occasional small spills from gasoline, diesel, oils, hydraulic fluids and antifreeze. These spills were normally cleaned using an absorbent and the used absorbent properly disposed of. Used oils and antifreezes are re-cycled. The fire department hose tower (Building 331) was used until the late 1980s to temporarily store absorbed spill response waste. The tanks for the old filling station have been cleaned and foamed in place in 1996. See the Building specific WSRIC for more detailed listing of the waste streams associated with each building addressed in this HSA.

Building 331 housed RCRA Unit 2, which was closed in 1996 in accordance with the RCRA Closure Plan for B331. No other buildings addressed in this HSA is associated with Permitted RCRA Units.

Describe any potential, likely, or known spill locations (and sources, if any).

Small volume spills of gasoline, Diesel, oil, hydraulic fluids, and antifreeze occurred in many of these facilities and are discussed in the "Process History" section above. Additional, RCRA/CERCLA release information is documented in the IHSS, PAC, and UBC section below.

Describe methods in which spills were mitigated, if any

Spills were normally absorbed and disposed of in accordance with RFETS requirements.

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PCBs

Describe any potential, likely, or known sources of PCBs (e g, light ballasts, paints, equipment, etc)

Due to the age of these facilities, there may be a concern with PCBs in paint, light ballasts, and electrical equipment. PCBs were not known to have been regularly handled in any of these facilities

Describe any potential, likely, or known spill locations (and sources, if any)

No known PCB spills occurred in any of the facilities addressed in this HSA

Describe methods in which spills were mitigated, if any

No known PCB spills occurred in any of the facilities addressed in this HSA

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Radiological Contaminants

Describe any potential, likely, or known radiological production or storage locations

None of the buildings in this HSA are currently radiologically posted. In the early history of Building 331, a small R&D metallurgical laboratory was operated in the garage portion of the building. In the late 1950s, a truck being worked on in the garage was found to have contamination on the bed of the truck (cross contamination from hauling contaminated drums). No building contamination was identified. In the past, the fire Department side of Building 331 has, on occasion, found radiological contamination on fire fighting equipment, which has entered contaminated areas. When contamination was detected it was always cleaned.

During fire training exercises in Building 335, actual waste steams from Building 444 were frequently used as fuel for these training fires. Some of this waste contained depleted uranium.

Building 334 has not housed any radiological processes, but has had equipment installed in the machine shop from Building 444 and 881. Some hot spots of uranium were detected on the equipment and under the equipment during equipment removal in the 1980s. On a few occasions in the 1960s, uranium parts were escorted to building 334 for some specialty machine work. After this work was performed the machines were cleaned and the area surveyed. Building 334 is not radiologically posted.

Building C331, 331F, 331S, T334B, and T334D have no history of radiological contamination. See individual building histories above for a more detailed description of historical operations.

Describe any potential, likely, or known spill locations (e.g., known leaking sealed radioactive sources, leaking waste drums, potentially contaminated drains, etc.)

Building 331 has several contaminated sanitary drains in the old metallurgical laboratory rooms.

Describe methods in which spills were mitigated, if any.

No known spills.

Describe any potential, likely, or known isotopes of concern (e.g., weapons grade plutonium, uranium isotopes, pure beta emitters, mixed fission products, etc.)

The primary isotope of concern includes, but is not limited to depleted uranium. Other than sealed sources, there were no known mixed fission products or pure beta emitters used in any of the facilities addressed in the HSA.

Describe any potential, likely, or known external facility contamination (e.g., stack release points, unfiltered ventilation, facility's physical location to known site releases, etc.)

See section below for information on IHSSs PACs, and UBCs.

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Environmental Restoration Concerns

Describe any ER concerns that could affect facility characterization (e.g., IHSSs, PACs, UBCs)

Building 331 is associated with or located near the following active IHSSs, PACs, and UBCs,

- 1) IHSS 300-134 -S "Reactive Metal Disposal Site South", Active
- 2) IHSS 300-703 "Building 331 north Area", NFA approved in 1992, CDPHE approved as proposed in 2001
- 3) IHSS 300-710 "Gasoline spill North of Building 331, NFA approved 1992, CDPHE approved as proposed in 2001
- 4) IHSS 300-711 "Nickel-Cadmium Battery Acid Spill Outside of Building 373" Proposed NFA HRR Quarterly update January 1994
- 5) IHSS 300-713 "Caustic Spill North of Building 331", " Proposed NFA HRR Quarterly update April, 1994
- 6) UBC-331 - A portion of Building 331 has a UBC under the old metallurgical lab

Building 334 is associated with or located near the following active IHSSs, PACs, and UBCs,

- 1) IHSS 300-709 "Transformer Leak - 334-1", Proposed NFA in 1996 (currently under review with regulatory agencies)
- 2) IHSS 300-156 1 "Building 371 Parking Lot", NFA approved in 2001

Building 335 is associated with or located near the following IHSSs, PACs, and UBCs,

- 1) IHSS 300-134-N "Lithium Metal Distraction Site", Active
- 2) IHSS 300-128 "Oil Burning Pit No 1", Active
- 3) IHSS 300-171 "Solvent Burning Ground", Active

Building 331F and 331S are on the edge of the border of IHSS 300-134-S "Reactive Metal Disposal Site South"
Buildings C331, T334B, and T334D are not directly referenced in any IHSSs, PACs, and UBCs

Additional Information

Describe any additional information that may be useful during facility characterization (e.g., contaminant migration routes, waste handling operations, physical hazards, Historical Release Reports, WSRIC data, etc.)

None

References

Provide all sources of information utilized to gather data for facility history (e.g., documents, files, interviews)

Sources reviewed to complete this HSA were the RFETS Facility List, the Historical Release Report, Site Master List of RCRA Units, and the Site IHSS, PAC, and UBC databases Building 331, 334, and 335 WSRICs, (Building C331, 331F, T334B, and T334D do not have WSRICs) In addition, a facility walkdown and interviews were performed

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Waste Volume Estimates and Material Types							
Facility	Concrete (cu ft)	Wood (cu ft)	Metal (cu ft)	Corrugated Sheet Metal (cu ft)	Wall Board (cu ft)	ACM (cu ft)	Other Waste (cu ft)
Building 331	44,500	0	2,800	0	900	TBD	Built-up Roofing 3,600 cu ft
Building C331	250	150	None	None	None	TBD	cargo containers are excluded from estimate
Building 331F	900	None	100	40	None	TBD	None
Building 331S	None	50	None	100	None	TBD	Asphalt 400, cargo containers are excluded from estimate
Building 334	85,500	0	5,900	0	1,800	TBD	Built-up Roofing 6,800 cu ft
Trailer T334B	None	400	500	800	1,000	TBD	None
Trailer T334D	None	275	250	350	450	TBD	None
Building 335	2500	None	600	900	300	TBD	None
Further Actions							
<i>Recommend any further actions, if any (e g , characterization, decontamination, special handling, etc)</i>							
Begin the RLC/PDS process							
Note							
This HSA was performed prior to SME walkdowns, and chemical and radiological characterization package preparations SMEs should evaluate and/or verify all information during the RLC/PDS process SMEs may need to review additional documentation and perform additional interviews Information contained in this HSA only represents a "snapshot" in time Subsequent data may be obtained during SME walkdowns and chemical and radiological characterization package preparations, which may conflict with this report. However, this report will not be amended, and the newer data will take precedence over the data in this report. Newer Data will appear in the RLCR/PDSR.							

Prepared By:

Doug Bryant
Name

Signature

February 2002
Date

ATTACHMENT C

Radiological Data Summaries and Survey Maps

SURVEY UNIT 334-A-001
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: T334B (Interior & Exterior)

334-A-001
PDS Data Summary

<u>Total Surface Activity Measurements</u>			<u>Removable Activity Measurements</u>		
	17	17		17	
	Number Required	Number Obtained		Number Required	Number Obtained
MIN	-12.4	dpm/100 cm ²	MIN	-1.5	dpm/100 cm ²
MAX	58.2	dpm/100 cm ²	MAX	7.0	dpm/100 cm ²
MEAN	10.1	dpm/100 cm ²	MEAN	0.1	dpm/100 cm ²
STD DEV	22.7	dpm/100 cm ²	STD DEV	2.0	dpm/100 cm ²
TRANSURANIC DCGL _w	100	dpm/100 cm ²	TRANSURANIC DCGL _w	20	dpm/100 cm ²

29

**SURVEY UNIT 334-A-001
TSA - DATA SUMMARY**

Manufacturer	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech
Model:	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#:	1	2	3	4	9
Serial #:	2343	394	1250	1260	1260
Cal Due Date:	10/2/02	1/12/03	10/10/02	2/21/03	2/21/03
Analysis Date:	9/10/02	9/10/02	9/11/02	9/11/02	9/16/02
Alpha EFF (c/d)	0.228	0.226	0.213	0.219	0.219
Alpha Bkgd (cpm)	1.0	3.0	1.3	4.7	5.3
Sample Time (min)	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm ²)	48.0	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm ²)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm ²)	Sample Net Activity (dpm/100cm ²) ^{1,2}
1	3	8	37.6	4.7	22.1	19.5
2	1	1.3	5.7	1.3	5.7	12.4
3	2	3.3	14.6	3.3	14.6	3.5
4	2	6.7	29.6	2.7	11.9	11.5
5	4	16.7	76.3	6.7	30.6	58.2
6	9	34.7	158.4	6.7	30.6	0.0
7	1	6.7	29.4	2.7	11.8	11.3
8	1	3.3	14.5	4.7	20.6	3.6
9	9	26	118.7	6	27.4	0.0
10	4	16	73.1	6	27.4	55.0
11	2	2.7	11.9	2.7	11.9	-6.2
12	4	14.7	67.1	7.3	33.3	49.0
13	1	3.3	14.5	3.3	14.5	3.6
14	3	4.7	22.1	2.7	12.7	4.0
15	2	6.7	29.6	4.7	20.8	11.5
16	3	1.3	6.1	1.3	6.1	12.0
17	1	2.7	11.8	1.3	5.7	-6.3

1 Average LAB used to subtract from Gross Sample Activity

2 The initial Sample Net Activity for locations 6 and 9 was 140.3 and 100.6 dpm/100cm² respectively

A coupon sample was collected from location 6 and analyzed using the Canberra ISOCS system. No transuranic isotopes were detected. Exposed metal sample activity was determined to be from uranium and naturally occurring isotopes.

The Sample Net Activity for this location is below the uranium DCGL_h limits (5000 dpm/100cm²)

All survey results are less than the applicable DCGL_s, therefore, no further investigation is required.

On this basis, the transuranic values for locations 6 and 9 are reported as zero (0) net activity in the TSA Data Summary

18.1	Sample LAB Average
MIN	12.4
MAX	58.2
MEAN	10.1
SD	22.7
Transuranic DCGL _w	100

QC Measurements

12 QC	3	3.3	15.5	2.7	12.7	7.5
14 QC	4	9.3	42.5	7.3	33.3	19.5

1 Average QC LAB used to subtract from Gross Sample Activity

23.0	QC LAB Average
Transuranic DCGL _w	100

30

**SURVEY UNIT 334-A-001
RSC - DATA SUMMARY**

Manufacturer	Eberline	Eberline	Eberline	Eberline
Model	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#	5	6	7	8
Serial #	824	966	963	952
Cal Due Date:	10/1/02	11/6/02	1/3/03	1/31/03
Analysis Date	9/12/02	9/12/02	9/12/02	9/2/02
Alpha Eff (c/d)	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.6	0.5	0.4	0.2
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm²)	9.0	9.0	9.0	9.0

Manufacturer	Eberline	Eberline
Model	SAC-4	SAC-4
Instrument ID#	10	11
Serial #	824	966
Cal Due Date	10/1/02	11/6/02
Analysis Date	9/16/02	9/16/02
Alpha Eff (c/d)	0.33	0.33
Alpha Bkgd (cpm)	0.2	0.4
Sample Time (min)	2	2
Bkgd Time (min)	10	10
MDC (dpm/100cm²)	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm²)
1	7	1.0	0.3
2	7	0.0	-1.2
3	7	0.0	-1.2
4	5	1.0	-0.3
5	8	0.0	-0.6
6	10	5.0	7.0
7	5	2.0	1.2
8	6	0.0	-1.5
9	11	1.0	0.3
10	6	1.0	0.0
11	8	0.0	-0.6
12	6	0.0	-1.5
13	5	2.0	1.2
14	7	0.0	-1.2
15	8	0.0	-0.6
16	5	1.0	-0.3
17	6	1.0	0.0
		MIN	-1.5
		MAX	7.0
		MEAN	0.1
		SD	2.0
		Transuranic DCGL_w	20

***** GAMMA SPECTRUM ANALYSIS *****
** Canberra Mobile Laboratory Services **

Report Generated On . 10/09/2002 8 28:58 AM

RIN Number : 03S0004
Analytical Batch ID : 0210044732
Line Item Code : RC10B019

Filename: A \G1900068.CNF

Sample Number : 03S0004-022 001
Lab Sample Number : CMLS-1764
Sample Receipt Date : 10/04/2002
Sample Volume Received : 2 61E+001 Grams

*metal coupons
T334B, B334 Roof
B334 Flashing*

Result Identifier : N/A

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 100 - 8192
Peak Area Range (in channels) : 100 - 8192
Identification Energy Tolerance : 1 000 keV

Sample (Final Aliquot Size) : 2 610E+001 Grams
Sample Quantity Error : 0 000E+000
Systematic Error Applied : 0 000E+000

Sample Taken On : 10/03/2002 1:30:00 PM
Acquisition Started : 10/08/2002 2:18:48 PM

Count Time : 28800 0 seconds
Real Time : 28822.4 seconds
Dead Time : 0.08 %

Energy Calibration Used Done On . 10/01/02
Energy = -0 204 + 0.250*ch + -5 33E-008*ch^2 + 5 11E-012*ch^3

Corrections Applied.
None

Efficiency Calibration Used Done On : 10/07/02
Efficiency Geometry ID : 03S0004-022.001

Analyzed By Marilyn Umbaugh Date: 10/8/02

Reviewed By Sean Stanfield Date: 10/8/02

 ***** Sample and QC Sample Results Summary *****

Site Sample ID . 03S0004-022.001

Analytical Batch ID : 0210044732

Sample Type (Result Identifier): G19

Lab Sample Number : CMLS-1764

Geometry ID : 03S0004-022.001

Filename A \G1900068 CNF

Detector Name. BEGE4732

MDA = Curie method as specified in Genie-2000 Customization Tools Manual
 Appendix B, Basic Algorithms

Analyte	Activity (pCi/Grams)	2-Sigma Uncertainty (pCi/Grams)	MDA (pCi/Grams)
K-40	1 85E+001	2.00E+000	2.47E+000
CS-137	0.00E+000	0.00E+000	2 01E-001
TL-208	1.66E-001	1.82E-001	3.06E-001
PO-210	0.00E+000	0.00E+000	1.93E+004
BI-212	0.00E+000	0.00E+000	2.80E+000
PB-212	2.09E-001	1 16E-001	1.91E-001
BI-214	0 00E+000	0.00E+000	4 13E-001
PB-214	1.14E-001	6 63E-002	1.66E-001
RA-226	0.00E+000	0 00E+000	2.07E+000
AC-228	0.00E+000	0.00E+000	8 26E-001
TH-230	0 00E+000	0.00E+000	1.59E+001
Th-231	3.76E-001	1 87E-001	5.41E-001
PA-234	0.00E+000	0.00E+000	1.76E-001
PA-234M	0.00E+000	0 00E+000	2.35E+001
U-235	3 73E-001	7 09E-002	1.28E-001
U238/234	1.70E+000	4.79E-001	6.60E-001
AM-241	0.00E+000	0.00E+000	1 60E-001

PRE-DEMOLITION SURVEY FOR BUILDING T334B

Survey Area 3
Building T334B

Survey Unit 334-A-001

Classification 3

Survey Unit Description Interior & Exterior of Building

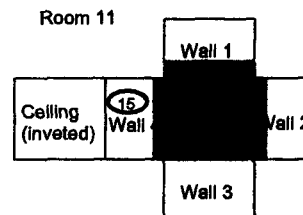
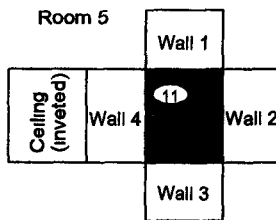
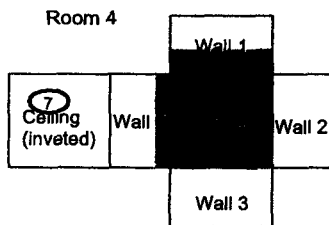
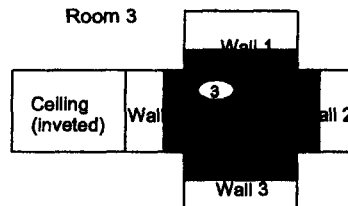
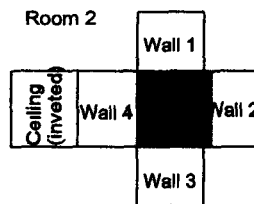
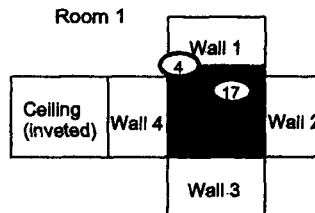
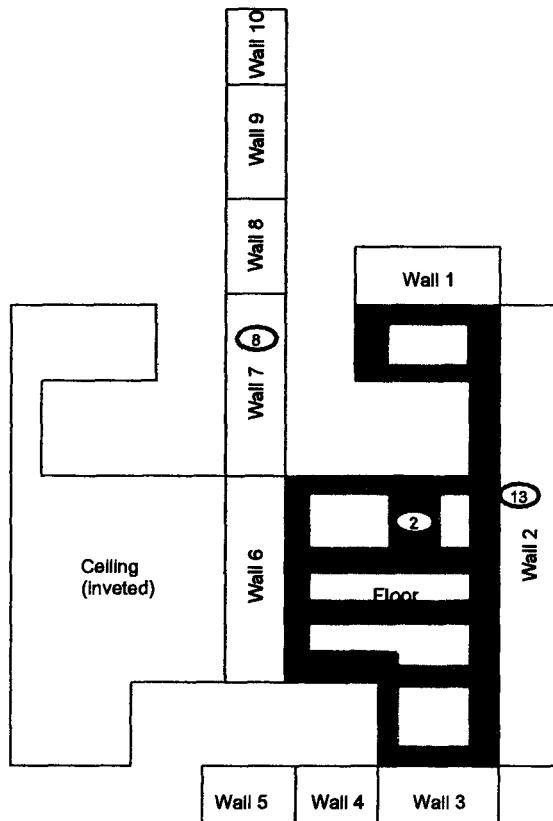
Total Area 1096 sq m

Total Roof Area 191 sq m

Total Floor Area 168 sq m

PAGE 1 OF 2

T334B Interior



Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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1 inch = 24 feet 1 sq m = 1 sq m

Scan Survey Information

Survey Instrument ID #(s) 3, 4, 9

RCT ID #(s) 1, 3, 5

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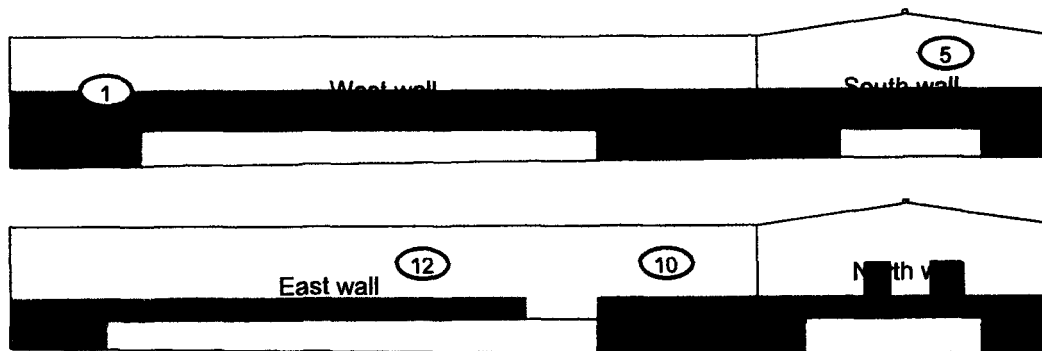
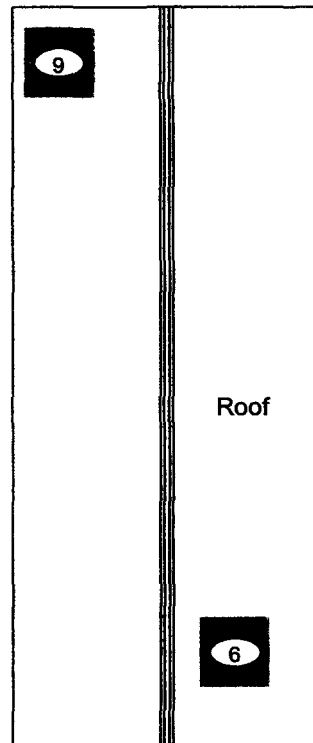
MAP ID 02-0589/T334B-IN

Oct 9, 2002

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Survey Area 3	Survey Unit 334-A-001	Classification 3
Building T334B		
Survey Unit Description	Interior & Exterior of Building	
Total Area 1096 sq m	Total Roof Area	191 sq m
	Total Floor Area	168 sq m

T334B Exterior



Scan Area

SURVEY MAP LEGEND

-  Smear & TSA Location
 Smear TSA & Sample Location
 Open/Inaccessible Area
 Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) 3, 4, 9

RCT ID #(s) 1, 3, 5

N
↑

1 inch = 18 feet 1 grid sq = 1 sq m

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MAP ID 02-0589/T334B-EX

Oct 9, 2002

SURVEY UNIT 334-A-002
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: T334D (Interior & Exterior)

334-A-002
PDS Data Summary

Total Surface Activity Measurements

	17	17
	Number Required	Number Obtained
MIN	-9.7	dpm/100 cm ²
MAX	69.9	dpm/100 cm ²
MEAN	18.2	dpm/100 cm ²
STD DEV	25.7	dpm/100 cm ²
TRANSURANIC DCGL _w	100	dpm/100 cm ²

Removable Activity Measurements

	17	17
	Number Required	Number Obtained
MIN	-1.8	dpm/100 cm ²
MAX	1.5	dpm/100 cm ²
MEAN	-0.6	dpm/100 cm ²
STD DEV	1.1	dpm/100 cm ²
TRANSURANIC DCGL _w	20	dpm/100 cm ²

**SURVEY UNIT 334-A-002
TSA - DATA SUMMARY**

Manufacturer	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech
Model	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#	1	2	3	4	9
Serial #	394	2343	1250	1260	1260
Cal Due Date	1/12/03	10/10/02	10/10/02	2/21/03	2/21/03
Analysis Date	9/10/02	9/10/02	9/11/02	9/11/02	9/16/02
Alpha Eff (c/d)	0.226	0.228	0.213	0.219	0.219
Alpha Bkgd (cpm)	1.0	3.0	1.3	4.7	5.3
Sample Time (min)	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm ²)	48.0	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm ²)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm ²)	Sample Net Activity (dpm/100cm ²) ^{1,2}
1	4	14	63.9	5.3	24.2	48.5
2	2	4.7	20.6	6	26.3	5.2
3	1	10	44.2	7.6	33.6	28.8
4	3	8	37.6	2.7	12.7	22.1
5	2	1.3	5.7	1.3	5.7	9.7
6	4	11.3	51.6	5.3	24.2	36.1
7	9	18.7	85.4	4.7	21.5	69.9
8	1	2.7	11.9	1.3	5.8	3.5
9	9	17.3	79.0	4	18.3	63.5
10	1	3.3	14.6	3.3	14.6	-0.8
11	3	10.1	47.4	2	9.4	32.0
12	2	1.3	5.7	3.3	14.5	-9.7
13	3	10	46.9	4	18.8	31.5
14	1	4.7	20.8	2.7	11.9	5.3
15	2	2	8.8	2.7	11.8	-6.7
16	3	2.7	12.7	0.7	3.3	2.8
17	3	3.3	15.5	1.3	6.1	0.0

¹ Average LAB used to subtract from Gross Sample Activity

15.4	Sample LAB Average
MIN	-9.7
MAX	69.9
MEAN	18.2
SD	25.7
Transuranic DCGL _w	100

QC Measurements

6 QC	9	2.7	12.3	2.7	12.3	3.0
16 QC	4	10	45.7	4	18.3	30.4

¹ Average QC LAB used to subtract from Gross Sample Activity

15.3	QC LAB Average
Transuranic DCGL _w	100

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**SURVEY UNIT 334-A-002
RSC - DATA SUMMARY**

Manufacturer	Eberline	Eberline	Eberline	Eberline
Model	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#	5	6	7	8
Serial #	824	966	963	952
Cal Due Date	10/1/02	11/6/02	1/3/03	1/31/03
Analysis Date:	9/12/02	9/12/02	9/12/02	9/12/02
Alpha Eff (c/d)	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.6	0.5	0.4	0.2
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm²)	9.0	9.0	9.0	9.0

Manufacturer	Eberline	Eberline
Model	SAC-4	SAC-4
Instrument ID#	10	11
Serial #	963	952
Cal Due Date	1/3/03	1/31/03
Analysis Date	9/16/02	9/16/02
Alpha Eff (c/d)	0.33	0.33
Alpha Bkgd (cpm)	0.4	0.1
Sample Time (min)	2	2
Bkgd Time (min)	10	10
MDC (dpm/100cm²)	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100cm ²)
1	7	00	-1.2
2	6	10	0.0
3	8	10	0.9
4	6	00	-1.5
5	5	00	-1.8
6	5	00	-1.8
7	10	00	-1.2
8	7	00	-1.2
9	11	10	1.2
10	6	20	1.5
11	7	10	0.3
12	8	00	-0.6
13	5	00	-1.8
14	7	10	0.3
15	8	00	-0.6
16	6	10	0.0
17	5	00	-1.8
		MIN	-1.8
		MAX	1.5
		MEAN	-0.6
		SD	1.1
		Transuranic DCGL_w	20

PRE-DEMOLITION SURVEY FOR BUILDING T334D

Survey Area 3 Survey Unit 334-A-002 Classification 3
 Building T334D
 Survey Unit Description Interior & Exterior of Building

Total Area	572 sq m	Total Floor Area	58 sq m
		Total Roof Area	75 sq m

PAGE 1 OF 2

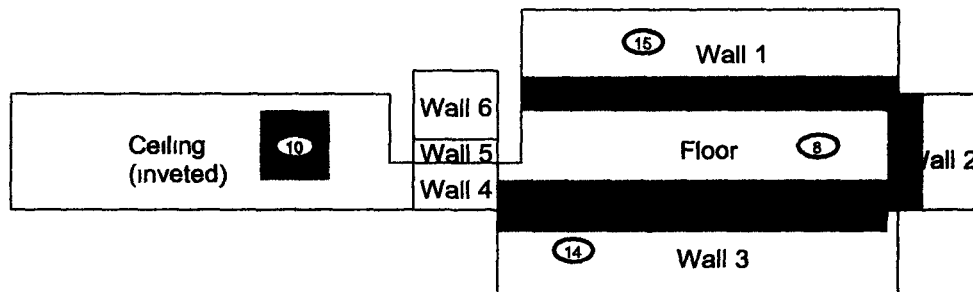
Classification 3

Total Floor Area	58 sq m
Total Roof Area	75 sq m

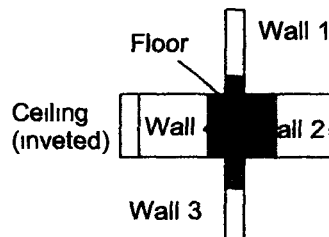
Total Floor Area	58 sq m
Total Roof Area	75 sq m

PAGE 1 OF 2

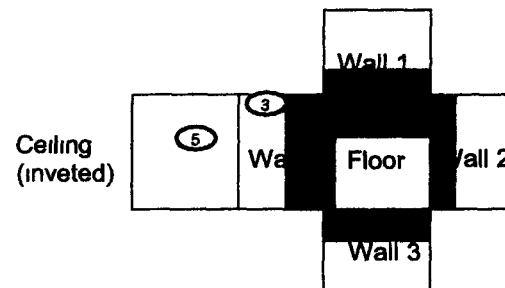
T334D Interior




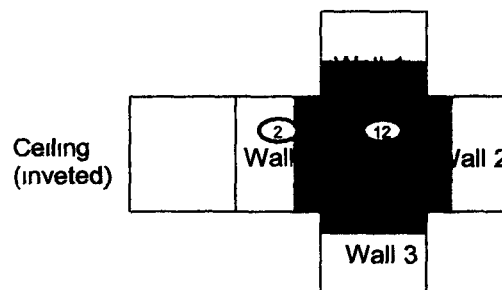
Closet



Room 6



Room 1

 Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
 Smear, TSA & Sample Location
 Open/Inaccessible Area
 Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) 2, 4, 9

RCT ID #(s) 1, 3, 5



1 inch = 18 feet 1 grid sq = 1 sq m

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Oct 9, 2002

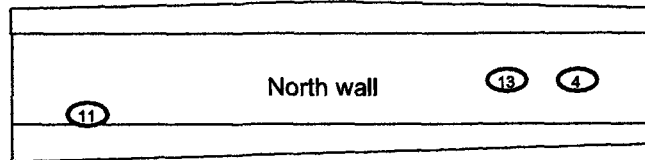
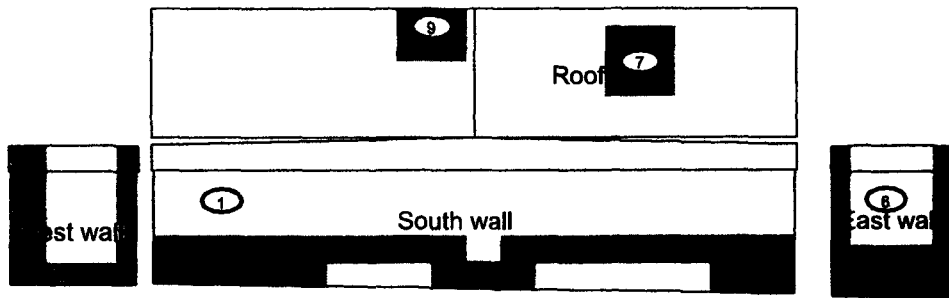
40

PRE-DEMOLITION SURVEY FOR BUILDING T334D

Survey Area 3 Survey Unit 334-A-002 Classification 3
 Building T334D
 Survey Unit Description Interior & Exterior of Building
 Total Area 572 sq m Total Floor Area 58 sq m
 Total Roof Area 75 sq m

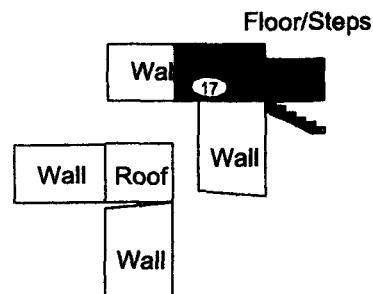
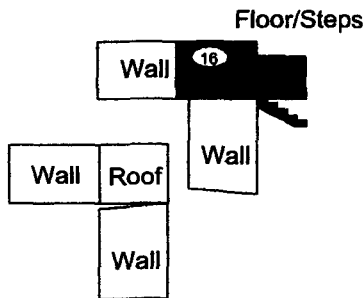
PAGE 2 OF 2

T334D Exterior



West door

East door

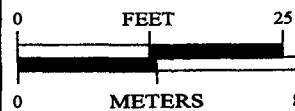


Scan Area

SURVEY MAP LEGEND

- Smear & TSA Location
- Smear, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) 2, 4, 9
 RCT ID #(s) 1, 3, 5

1 inch = 18 feet 1 grnd sq = 1 sq m

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SURVEY UNIT 334-A-003
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B334 (Interior - High Bay)

42

334-A-003
PDS Data Summary

Total Surface Activity Measurements

	110	110
	Number Required	Number Obtained
MIN	-11.3	dpm/100 cm ²
MAX	35.3	dpm/100 cm ²
MEAN	8.1	dpm/100 cm ²
STD DEV	9.3	dpm/100 cm ²
TRANSURANIC DCGL _w	100	dpm/100 cm ²

Removable Activity Measurements

	110	110
	Number Required	Number Obtained
MIN	-1.8	dpm/100 cm ²
MAX	4.2	dpm/100 cm ²
MEAN	0.2	dpm/100 cm ²
STD DEV	1.2	dpm/100 cm ²
TRANSURANIC DCGL _w	20	dpm/100 cm ²

Media

Total Surface Activity Measurements

	30	30
	Number Required	Number Obtained
MIN	-3.1	dpm/100 cm ²
MAX	68.9	dpm/100 cm ²
MEAN	11.1	dpm/100 cm ²
STD DEV	14.8	dpm/100 cm ²
TRANSURANIC DCGL _w	100	dpm/100 cm ²

Media

Removable Activity Measurements

	30	30
	Number Required	Number Obtained
MIN	-0.3	dpm/100 cm ²
MAX	6.1	dpm/100 cm ²
MEAN	0.9	dpm/100 cm ²
STD DEV	1.7	dpm/100 cm ²
TRANSURANIC DCGL _w	20	dpm/100 cm ²

**SURVEY UNIT 334-A-003
TSA - DATA SUMMARY**

Manufacturer	N.E.Tech	N.E.Tech	N.E.Tech	N.E.Tech	N.E.Tech
Model	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#	1	2	3	4	9
Serial #	3114	3114	3114	1397	1271
Cal Due Date	3/5/03	3/5/03	3/5/03	3/19/03	3/25/03
Analysis Date	10/3/02	10/4/02	10/7/02	10/7/02	10/7/02
Alpha Eff (c/d)	0.222	0.222	0.222	0.228	0.216
Alpha Bkgd (cpm)	3.3	2.0	4.0	3.0	2.0
Sample Time (min)	15	15	15	15	15
LAB Time (min)	15	15	15	15	15
MDC (dpm/100cm ²)	48.0	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm ²)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm ²)	Sample Net Activity (dpm/100cm ²) ^{1,2}
1	3	6	27.0	7.3	32.9	10.0
2	3	5.3	23.9	0.5	2.3	6.9
3	1	6.7	30.2	1.3	5.9	13.2
4	2	6	27.0	6.7	30.2	10.0
5	2	8	36.0	7.3	32.9	19.0
6	1	2.7	12.2	2.7	12.2	-4.8
7	2	8.7	39.2	2	9.0	22.2
8	2	7.3	32.9	3.3	14.9	15.9
9	2	8.7	39.2	4	18.0	22.2
10	1	8	36.0	6	27.0	19.0
11	1	3.3	14.9	2.7	12.2	-2.1
12	1	6	27.0	4.7	21.2	10.0
13	1	3.3	14.9	3.3	14.9	-2.1
14	2	6	27.0	8	36.0	10.0
15	1	5.3	23.9	4	18.0	6.9
16	1	4	18.0	2	9.0	1.0
17	3	9.3	41.9	6	27.0	24.9
18	1	6.7	30.2	6.7	30.2	13.2
19	1	6.7	30.2	0.7	3.2	13.2
20	9	4	18.5	2.2	10.2	1.5
21	1	5.3	23.9	2.7	12.2	6.9
22	9	4.7	21.8	4.7	21.8	4.8
23	1	5.3	23.9	4	18.0	6.9
24	9	3.3	15.3	1.3	6.0	-1.7
25	1	4.7	21.2	3.3	14.9	4.2
26	1	9.3	41.9	6	27.0	24.9
27	1	4.7	21.2	4.7	21.2	4.2
28	1	5.3	23.9	3.3	14.9	6.9
29	4	6	26.3	2.7	11.8	9.3
30	1	8	36.0	7.3	32.9	19.0
31	1	8.7	39.2	3.3	14.9	22.2
32	2	8	36.0	4	18.0	19.0
33	2	6.7	30.2	5.3	23.9	13.2
34	2	5.3	23.9	4.7	21.2	6.9
35	1	2.7	12.2	2	9.0	-4.8
36	1	4.7	21.2	3.3	14.9	4.2
37	1	5.3	23.9	5.3	23.9	6.9
38	1	3.3	14.9	2	9.0	-2.1
39	1	7.3	32.9	6.7	30.2	15.9
40	1	9.3	41.9	2	9.0	24.9

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**SURVEY UNIT 334-A-003
TSA - DATA SUMMARY**

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2) ^{1,2}
41	1	4	18.0	6	27.0	1.0
42	1	7.3	32.9	4.7	21.2	15.9
43	1	8	36.0	2.7	12.2	19.0
44	1	6.7	30.2	4.7	21.2	13.2
45	1	6	27.0	2.7	12.2	10.0
46	1	5.3	23.9	4.7	21.2	6.9
47	1	3.3	14.9	2.7	12.2	-2.1
48	1	6.7	30.2	6	27.0	13.2
49	1	6	27.0	2	9.0	10.0
50	1	6	27.0	5.3	23.9	10.0
51	3	2	9.0	6	27.0	-8.0
52	3	6	27.0	3.3	14.9	10.0
53	3	6.7	30.2	4.7	21.2	13.2
54	3	4	18.0	7.3	32.9	1.0
55	3	6	27.0	4.7	21.2	10.0
56	9	4	18.5	2	9.3	1.5
57	9	2	9.3	3.3	15.3	-7.7
58	9	3.1	14.4	2.9	13.4	2.6
59	9	11.3	52.3	4.7	21.8	35.3
60	4	6.7	29.4	4	17.5	12.4
61	3	4	18.0	2.7	12.2	1.0
62	4	1.3	5.7	2	8.8	-11.3
63	3	6	27.0	0.7	3.2	10.0
64	4	2.7	11.8	0.7	3.1	-5.2
65	3	2.7	12.2	4.7	21.2	-4.8
66	4	8.7	38.2	1.3	5.7	21.2
67	4	6	26.3	7.6	33.3	9.3
68	4	8.7	38.2	3.3	14.5	21.2
69	3	5.3	23.9	5.3	23.9	6.9
70	3	8.7	39.2	2.7	12.2	22.2
71	4	5.3	23.2	2.3	10.1	6.2
72	3	5.3	23.9	2.7	12.2	6.9
73	4	3.3	14.5	2.7	11.8	-2.5
74	3	5.3	23.9	4	18.0	6.9
75	4	4.7	20.6	4	17.5	3.6
76	4	2	8.8	3.6	15.8	-8.2
77	3	6.7	30.2	5.3	23.9	13.2
78	4	6	26.3	4.7	20.6	9.3
79	3	7.3	32.9	3.3	14.9	15.9
80	4	2	8.8	1.3	5.7	-8.2
81	3	6	27.0	5.3	23.9	10.0
82	4	8	35.1	2	8.8	18.1
83	3	6	27.0	2	9.0	10.0
84	4	6	26.3	5.3	23.2	9.3
85	4	3.3	14.5	3.3	14.5	2.5
86	4	4	17.5	0.7	3.1	0.5
87	3	2	9.0	0.7	3.2	-8.0
88	4	6	26.3	2	8.8	9.3
89	3	3.3	14.9	4	18.0	-2.1
90	4	4.8	21.1	4	17.5	4.1
91	3	4	18.0	5.3	23.9	1.0
92	4	4.7	20.6	4	17.5	3.6
93	3	4.7	21.2	7.3	32.9	4.2

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**SURVEY UNIT 334-A-003
TSA - DATA SUMMARY**

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2) ^{1,2}
94	4	2.7	11.8	3.8	16.7	-5.2
95	3	5.3	23.9	4.7	21.2	6.9
96	3	7.3	32.9	3.3	14.9	15.9
97	3	4	18.0	4.7	21.2	1.0
98	3	7.3	32.9	4.7	21.2	15.9
99	3	4	18.0	3.3	14.9	1.0
100	3	8.7	39.2	2	9.0	22.2
101	4	4.7	20.6	0.7	3.1	3.6
102	3	7.3	32.9	2	9.0	15.9
103	3	5.3	23.9	5.3	23.9	6.9
104	4	5.3	23.2	4	17.5	6.2
105	4	7.3	32.0	3.2	14.0	15.0
106	9	10.7	49.5	7.4	34.3	32.5
107	4	3.3	14.5	2.7	11.8	-2.5
108	3	3.3	14.9	2.7	12.2	-2.1
109	4	6	26.3	0.7	3.1	9.3
110	3	8.1	36.5	6	27.0	19.5

1 Average LAB used to subtract from Gross Sample Activity

17.0	Sample LAB Average
MIN	-11.3
MAX	35.3
MEAN	8.1
SD	9.3
Transuranic DCGL _w	100

QC Measurements

49 QC	4	6.7	29.4	2.7	11.8	16.6
10 QC	3	4.7	21.2	3.3	14.9	8.3
47 QC	4	4.7	20.6	0.7	3.1	7.8
86 QC	3	8.7	39.2	6	27.0	26.4
45 QC	4	5.7	25.0	3.3	14.5	12.2
16 QC	4	2.7	11.8	1.3	5.7	1.0

1 Average QC LAB used to subtract from Gross Sample Activity

12.8	QC LAB Average
MIN	1.0
MAX	26.4
MEAN	11.7
Transuranic DCGL _w	100

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**SURVEY UNIT 334-A-003
RSC - DATA SUMMARY**

Manufacturer:	Eberline	Eberline	Eberline	Eberline
Model	Sac-4	Sac-4	Sac-4	Sac-4
Instrument ID#.	5	6	7	8
Serial #	959	966	963	952
Cal Due Date	1/18/03	11/6/02	1/3/03	1/31/03
Analysis Date	10/7/02	10/7/02	10/7/02	10/7/02
Alpha Eff. (c/d)	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.2	0.6	0.0	0.1
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm²)	9.0	9.0	9.0	9.0

Manufacturer	Eberline	Eberline	Eberline	Eberline
Model:	Sac-4	Sac-4	Sac-4	Sac-4
Instrument ID#	13	14	15	16
Serial #	959	966	963	952
Cal Due Date	1/18/03	11/6/02	1/3/03	1/31/03
Analysis Date	10/8/02	10/8/02	10/8/02	10/8/02
Alpha Eff. (c/d)	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.3	0.3	0.4	0.0
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm²)	9.0	9.0	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm²)
1	13	0.0	-0.9
2	14	2.0	2.1
3	5	0.0	-0.6
4	6	1.0	-0.3
5	7	1.0	1.5
6	8	0.0	-0.3
7	5	0.0	-0.6
8	6	3.0	2.7
9	7	2.0	3.0
10	8	0.0	-0.3
11	5	0.0	-0.6
12	6	3.0	2.7
13	7	0.0	0.0
14	8	0.0	-0.3
15	5	0.0	-0.6
16	6	4.0	4.2
17	15	1.0	0.3
18	7	0.0	0.0
19	8	0.0	-0.3
20	16	0.0	0.0

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**SURVEY UNIT 334-A-003
RSC - DATA SUMMARY**

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm ²)
21	6	40	42
22	13	00	-09
23	7	00	00
24	14	00	-09
25	8	00	-03
26	6	00	-18
27	7	00	00
28	8	00	-03
29	15	10	03
30	7	00	00
31	8	00	-03
32	6	30	27
33	6	10	-03
34	7	10	15
35	8	00	-03
36	5	00	-06
37	6	20	12
38	7	00	00
39	8	00	-03
40	5	00	-06
41	6	20	12
42	7	10	15
43	8	00	-03
44	5	00	-06
45	6	10	-03
46	7	10	15
47	8	00	-03
48	5	10	09
49	6	20	12
50	7	10	15
51	16	00	00
52	13	00	-09
53	14	00	-09
54	15	10	03
55	16	00	00
56	13	00	-09
57	15	00	-12
58	14	00	-09
59	15	00	-12
60	16	00	00
61	8	10	12
62	5	20	24
63	6	00	-18
64	7	00	00
65	8	00	-03
66	5	10	09
67	6	20	12
68	7	10	15

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**SURVEY UNIT 334-A-003
RSC - DATA SUMMARY**

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm ²)
69	8	00	-03
70	5	00	-06
71	6	10	-03
72	7	00	00
73	8	00	-03
74	5	00	-06
75	6	00	-18
76	7	10	15
77	8	20	27
78	5	10	09
79	6	00	-18
80	7	00	00
81	8	00	-03
82	5	00	-06
83	6	10	-03
84	7	10	15
85	8	10	12
86	5	20	24
87	6	10	-03
88	7	00	00
89	8	00	-03
90	5	00	-06
91	6	10	-03
92	7	10	15
93	8	00	-03
94	5	00	-06
95	6	10	-03
96	13	20	21
97	14	10	06
98	15	00	-12
99	16	00	00
100	16	00	00
101	13	10	06
102	14	00	-09
103	13	00	-09
104	15	00	-12
105	16	10	15
106	13	00	-09
107	14	00	-09
108	15	00	-12
109	16	10	15
110	13	00	-09
		MIN	-18
		MAX	42
		MEAN	02
		SD	12
		Transuranic DCGL _w	20

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334-A-003
Media TSA Data Summary

Manufacturer	N.E.Tech	N.E.Tech	N.E.Tech	N.E.Tech
Model	DP-6	DP-6	DP-6	DP-6
Instrument ID#	1	2	5	6
Serial #	1397	3104	1397	3104
Cal Due Date:	3/19/03	2/1/02	3/19/03	2/1/02
Analysis Date:	10/3/02	10/3/02	10/4/02	10/4/02
Alpha Eff (c/d)	0.228	0.209	0.222	0.209
Alpha Bkgd (cpm)	3	2.0	4.0	3.0
Sample Time (min)	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5
MDC (dpm/100cm ²)	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm ²)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm ²)	Sample Net Activity (dpm/100cm ²) ^{1,2}
Pre 1	5	3.5	15.8	18	8.1	4.7
Pre 2	6	2.7	12.9	0.7	3.3	1.9
Pre 3	5	2.7	12.2	4.7	21.2	1.1
Pre 4	2	7.3	34.9	2.7	12.9	23.9
Pre 5	6	2.7	12.9	1.7	8.1	1.9
Pre 6	1	2.4	10.5	1.6	7.0	-0.5
Pre 7	1	3.4	14.9	2	8.8	3.9
Pre 8	1	8.7	38.2	1.3	5.7	27.1
Pre 9	1	2	8.8	4	17.5	2.3
Pre 10	2	5.3	25.4	2.7	12.9	14.3
Pre 11	2	32.9	157.4	3.3	15.8	0.0
Pre 12	1	4	17.5	2.7	11.8	6.5
Pre 13	2	5.6	26.8	2.8	13.4	15.8
Pre 14	1	3.5	15.4	2.6	11.4	4.3
Pre 15	2	4.7	22.5	1.8	8.6	11.4
Post 1	1	2.8	12.3	2.1	9.2	1.2
Post 2	2	9.3	44.5	0.7	3.3	33.5
Post 3	1	6.7	29.4	4.1	18.0	18.3
Post 4	2	3.3	15.8	2.7	12.9	4.7
Post 5	2	5.3	25.4	1.3	6.2	14.3
Post 6	1	1.8	7.9	1.6	7.0	3.1
Post 7	1	3.3	14.5	3.0	13.2	3.4
Post 8	1	6.5	28.5	1.3	5.7	17.5
Post 9	1	2.0	8.8	4.1	18.0	-2.3
Post 10	2	4.0	19.1	2.7	12.9	8.1
Post 11	2	16.7	79.9	3.1	14.8	68.9
Post 12	1	8.7	38.2	2.7	11.8	27.1
Post 13	2	6.7	32.1	2.4	11.5	21.0
Post 14	1	2.8	12.3	2.6	11.4	1.2
Post 15	2	3.6	17.2	1.8	8.6	6.2

1 Average LAB used to subtract from Gross Sample Activity

2 Locations 1 through 8 were based in areas of high traffic and on cracks and heavily painted spots.

Locations 9 through 15 were concentrated on and near machinery footprints because of B334 history

A scan survey was performed around each media sample location prior to sampling. The highest scan point was then selected for media sampling. Additionally a scan survey was performed over 100% of the high bay floor area.

The initial Sample Net Activity for location 11 was 146.4 dpm/100cm²

Location 11 was the only spot with elevated alpha activity > transuranic DCGL_w limits detected during the scan. Removal of the media resulted in measurements < transuranic DCGL_w levels. The media sample was analyzed using the Canberra ISOCS system. No transuranic isotopes were detected. The elevated activity was determined to be from uranium and naturally occurring isotopes.

The Sample Net Activity for this location is below the uranium DCGL_w limits (5000 dpm/100cm²)

On this basis, the transuranic value for location 11 is reported as zero (0) net activity in the TSA Data Summary

11.0	Sample LAB Average
MIN	3.1
MAX	68.9
MEAN	11.1
SD	14.8
Transuranic DCGL _w	100

QC Measurements

Pre 2 QC	1	3.4	14.9	1.3	5.7	9.4
Post 2 QC	1	4.7	20.6	1.2	5.3	15.1

1 Average QC LAB used to subtract from Gross Sample Activity

5.5	QC LAB Average
MIN	9.4
MAX	15.1
MEAN	12.3
Transuranic DCGL _w	100

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Page 9 of 11
040
10/23/02

334-A-003
Media RSC Data Summary

Manufacturer:	Eberline	Eberline
Model:	Sac-4	Sac-4
Instrument ID#:	3	7
Serial #:	959	959
Cal Due Date:	1/18/03	1/18/03
Analysis Date:	10/3/02	10/4/02
Alpha Eff. (c/d):	0.33	0.33
Alpha Bkgd (cpm)	0.1	0.0
Sample Time (min)	2	2
Bkgd Time (min)	10	10
MDC (dpm/100cm²)	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm ²)
Pre 1	7	1.0	1.5
Pre 2	7	0.0	0.0
Pre 3	7	1.0	1.5
Pre 4	3	1.0	1.2
Pre 5	7	0.0	0.0
Pre 6	3	0.0	-0.3
Pre 7	3	2.0	2.7
Pre 8	3	1.0	1.2
Pre 9	3	2.0	2.7
Pre 10	3	0.0	-0.3
Pre 11	3	1.0	1.2
Pre 12	3	0.0	-0.3
Pre 13	3	2.0	2.7
Pre 14	3	1.0	1.2
Pre 15	3	0.0	-0.3
Post 1	7	4.0	6.1
Post 2	7	1.0	1.5
Post 3	7	0.0	0.0
Post 4	3	0.0	-0.3
Post 5	7	0.0	0.0
Post 6	3	4.0	5.8
Post 7	3	0.0	-0.3
Post 8	3	0.0	-0.3
Post 9	3	0.0	-0.3
Post 10	3	0.0	-0.3
Post 11	3	0.0	-0.3
Post 12	3	0.0	-0.3
Post 13	3	0.0	-0.3
Post 14	3	1.0	1.2
Post 15	3	0.0	-0.3
		MIN	-0.3
		MAX	6.1
		MEAN	0.9
		SD	1.7
		Transuranic DCGL _w	20

334-A-003
Media Conversion

Media Sample Conversion Calculation Sheet

LOCATION DESCRIPTION	SAMPLE LOCATION NUMBER	SITE SAMPLE ID	NUCLIDE	pCi/g	MDA (pCi/g)	WEIGHT (g)	SURFACE AREA (in ²)	INDIVIDUAL NUCLIDE (dpm/100cm ²)	ESTIMATED MDA (dpm/100cm ²)	URANIUM TOTAL (dpm/100cm ²)	TRANSURANIC TOTAL (dpm/100cm ²)
B334 Interior High Bay	2	O3S0004-023 001	U-235	1 010	0 250	7 2	24 5	10	3	97 0	
			U-238	8 580	1 250			87	13		
			Pu-239	0 000	1 544			0	16		
			Pu-240	0 000	0 207			0	2		
			Am-241	0 000	0 207			0	2		0 0
B334 Interior High Bay	1,3,4,5 6,7	O3S0004-024 001	U-235	0 110	0 197	64 7	24 5	1	2	9 8	
			U-238	0 858	1 200			9	12		
			Pu-239	0 000	0 174			0	2		
			Pu-240	0 000	0 023			0	0		0 0
			Am-241	0 001	0 023			0	0		0 0
B334 Interior High Bay	8,9,10 11,12,13 14,15	O3S0004-025 001	U-235	0 244	0 053	86 1	24 5	2	1	20 7	
			U-238	1 800	0 270			18	3		
			Pu-239	0 000	0 281			0	3		
			Pu-240	0 000	0 038			0	0		0 0
			Am-241	0 000	0 038			0	0		0 0

- (1) Paint samples collected in B334, High Bay, were analyzed as grouped composites using the Canberra (SOCS Gamma Spectroscopy system
- (2) Critical Level test criterion were utilized in this analysis If the net peak area was less than the LC (critical level), then a "not detected" or "zero" decision was made
- (3) Individual nuclide dpm/100 cm2 conversion is conservatively based on the composite sample weight
- (4) Estimated MDA dpm/100 cm2 conversion is conservatively based on the composite sample weight

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***** GAMMA SPECTRUM ANALYSIS *****
** Canberra Mobile Laboratory Services **

Report Generated On . 10/10/2002 11:05 14 AM

RIN Number : 03S0004
Analytical Batch ID : 0210044732
Line Item Code : RC10B019

Filename A \G1900069 CNF

Sample Number 03S0004-023 001
Lab Sample Number CMLS-1765
Sample Receipt Date . 10/04/2002
Sample Volume Received 7 20E+000 Grams

Result Identifier N/A

Peak Locate Threshold . 2 50
Peak Locate Range (in channels) . 100 - 8192
Peak Area Range (in channels) . 100 - 8192
Identification Energy Tolerance 1.000 keV

Sample (Final Aliquot Size) 7 200E+000 Grams
Sample Quantity Error 0 000E+000
Systematic Error Applied . 0 000E+000

Sample Taken On 10/04/2002 8:50 00 AM
Acquisition Started 10/09/2002 7 42 14 AM

Count Time . 86400 0 seconds
Real Time . 86468 5 seconds
Dead Time . 0 08 %

Energy Calibration Used Done On 10/01/02
Energy = -0 204 + 0 250*ch + -5 33E-008*ch^2 + 5 11E-012*ch^3

Corrections Applied
None

Efficiency Calibration Used Done On 10/07/02
Efficiency Geometry ID . 03S0004-023 001

Analyzed By Marilyn Umbaugh Date: 10/10/02

Reviewed By Sheri Chambers Date 10/10/02

*Media Sample #2
B334 High Bay Interior*

*+
LOCATION 36 SCAN
INVESTIGATION
B334 High Bay Exterior*

Sample and QC Sample Results Summary 10/10/02 11 05 15 AM Page 2

 ***** Sample and QC Sample Results Summary *****

Site Sample ID : 03S0004-023 001

Analytical Batch ID : 0210044732

Sample Type (Result Identifier) G19

Lab Sample Number CMLS-1765

Geometry ID : 03S0004-023 001

Filename A.\G1900069 CNF

Detector Name. BEGE4732

MDA = Curie method as specified in Genie-2000 Customization Tools Manual
 Appendix B, Basic Algorithms

Analyte	Activity (pCi/Grams)	2-Sigma Uncertainty (pCi/Grams)	MDA (pCi/Grams)
K-40	8 54E+001	5.13E+000	6 37E+000
CS-137	6 11E-001	5 27E-001	8 82E-001
TL-208	8 87E-001	2 10E-001	3 31E-001
PO-210	0.00E+000	0 00E+000	4 18E+004
BI-212	4.80E+000	3 47E+000	5 77E+000
PB-212	1 99E+000	1 56E-001	2 81E-001
BI-214	2 95E+000	4 71E-001	7 80E-001
PB-214	2 67E+000	2 42E-001	4.76E-001
RA-226	8 46E+000	5 57E+000	4 04E+000
AC-228	1.12E+000	5 89E-001	1 21E+000
TH-230	0 00E+000	0 00E+000	2 42E+001
Th-231	7 91E-001	4 32E-001	1 07E+000
PA-234	0 00E+000	0 00E+000	3.45E-001
PA-234M	0.00E+000	0.00E+000	4 59E+001
U-235	1 01E+000	3 03E-001	2 50E-001
U238/234	8 58E+000	2 02E+000	1 25E+000
AM-241	0 00E+000	0 00E+000	2 07E-001

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Analysis Results Header

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***** GAMMA SPECTRUM ANALYSIS *****
** Canberra Mobile Laboratory Services **

Report Generated On 10/14/2002 11 29 04 AM

RIN Number 03S0004
Analytical Batch ID 0210044732
Line Item Code RC10B019

Filename A \G1900070 CNF

Sample Number 03S0004-024 001
Lab Sample Number CMLS-1766
Sample Receipt Date 10/04/2002
Sample Volume Received 8 61E+001 Grams

B334 High Bay Intake
Media Samples
1, 3, 4, 5, 6, 7

Result Identifier N/A

Peak Locate Threshold 2 50
Peak Locate Range (in channels) 100 - 8192
Peak Area Range (in channels) 100 - 8192
Identification Energy Tolerance 1 000 keV

Sample (Final Aliquot Size) 8 610E+001 Grams
Sample Quantity Error 0 000E+000
Systematic Error Applied 0 000E+000

Sample Taken On 10/03/2002 3 05 00 PM
Acquisition Started 10/10/2002 10 45 54 AM

Count Time 86400 0 seconds
Real Time 86468 5 seconds
Dead Time 0 08 %

Energy Calibration Used Done On 10/01/02
Energy = -0 204 + 0 250*ch + -5 33E-008*ch^2 + 5 11E-012*ch^3

Corrections Applied
None

Efficiency Calibration Used Done On 10/07/02
Efficiency Geometry ID 03S0004-024 001

Analyzed By Marilyn Umbaugh Date 10/14/02
Reviewed By Larry Umbaugh Date 10/14/02

Sample and QC Sample Results Summary 10/14/02 11:29 04 AM Page 2

 ***** Sample and QC Sample Results Summary *****

Site Sample ID 03S0004-024 001

Analytical Batch ID 0210044732

Sample Type (Result Identifier) G19

Lab Sample Number CMLS-1766

Geometry ID 03S0004-024 001

Filename A:\G1900070 CNF

Detector Name BEGE4732

MDA = Curie method as specified in Genie-2000 Customization Tools Manual
 Appendix B, Basic Algorithms.

Analyte	Activity (pCi/Grams)	2-Sigma Uncertainty (pCi/Grams)	MDA (pCi/Grams)
K-40	1 05E+001	6 30E-001	7 64E-001
CS-137	0 00E+000	0 00E+000	5 82E-002
TL-208	1 38E-001	2 83E-002	4 45E-002
PO-210	6 53E+003	2 71E+003	4 39E+003
BI-212	0 00E+000	0 00E+000	6 43E-001
PB-212	2 64E-001	2 11E-002	4 01E-002
BI-214	2 81E-001	5 49E-002	8.95E-002
PB-214	2 54E-001	4 89E-002	8 24E-002
RA-226	1 50E+000	6 76E-001	5 68E-001
AC-228	1 93E-001	7 13E-002	1 80E-001
TH-230	0 00E+000	0 00E+000	3 21E+000
Th-231	1 17E-001	5 20E-002	1 48E-001
PA-234	0 00E+000	0 00E+000	4 70E-002
PA-234M	0 00E+000	0 00E+000	6 26E+000
U-235	1 10E-001	3 50E-002	3 52E-002
U238/234	8 58E-001	1 01E-001	1 86E-001
AM-241	1 09E-002	7 28E-003	2 33E-002



Analysis Results Header

10/15/2002 9 51 45 AM

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***** GAMMA SPECTRUM ANALYSIS *****
** Canberra Mobile Laboratory Services **

Report Generated On 10/15/2002 9 51 45 AM

RIN Number 03S0004
Analytical Batch ID 0210044732
Line Item Code RC10B019

B334 High Bay

Filename A \G1900071 CNF

Media Samples

Sample Number 03S0004-025 001
Lab Sample Number CMLS1767
Sample Receipt Date 10/04/2002
Sample Volume Received 6 47E+001 GRAM

8, 9, 10, 11, 12, 13, 14, 15

Result Identifier NA

Peak Locate Threshold 2 50
Peak Locate Range (in channels) 100 - 8192
Peak Area Range (in channels) 100 - 8192
Identification Energy Tolerance . 1 000 keV

Sample (Final Aliquot Size) 6 470E+001 GRAM
Sample Quantity Error 0.000E+000
Systematic Error Applied 0 000E+000

Sample Taken On 10/03/2002 12 50 00 PM
Acquisition Started 10/14/2002 8 24 23 AM

Count Time . 86400 0 seconds
Real Time 86468 9 seconds
Dead Time 0 08 %

Energy Calibration Used Done On 10/01/02
Energy = -0 204 + 0 250*ch + -5 33E-008*ch^2 + 5.11E-012*ch^3

Corrections Applied
None

Efficiency Calibration Used Done On 10/07/02
Efficiency Geometry ID 03S0004-025 001

Analyzed By Marilyn Umbaugh Date: 10/15/02Reviewed By Phil Sanderson Date 10/15/02

Sample and QC Sample Results Summary 10/15/02 9 51 45 AM Page 2

 ***** Sample and QC Sample Results Summary *****

Site Sample ID 03S0004-025 001

Analytical Batch ID 0210044732

Sample Type (Result Identifier) G19

Lab Sample Number CMLS1767

Geometry ID 03S0004-025 001

Filename A \G1900071 CNF

Detector Name BEGE4732

MDA = Curie method as specified in Genie-2000 Customization Tools Manual
 Appendix B, Basic Algorithms

Analyte	Activity (pCi/GRAM)	2-Sigma Uncertainty (pCi/GRAM)	MDA (pCi/GRAM)
K-40	1 69E+001	9 17E-001	1 11E+000
CS-137	0 00E+000	0 00E+000	7 81E-002
TL-208	2 41E-001	4 52E-002	7 16E-002
PO-210	3 89E+003	3 10E+003	5 15E+003
BI-212	7 90E-001	5 20E-001	8 60E-001
PB-212	5 39E-001	3 25E-002	5 17E-002
BI-214	8 75E-001	8 57E-002	1 32E-001
PB-214	7 64E-001	5 38E-002	1 16E-001
RA-226	2 86E+000	1 08E+000	8 55E-001
AC-228	4 04E-001	1 27E-001	2 40E-001
TH-230	0 00E+000	0 00E+000	4 43E+000
Th-231	3 59E-001	1 53E-001	2 38E-001
PA-234	0 00E+000	0 00E+000	6 47E-002
PA-234M	0 00E+000	0 00E+000	8 61E+000
U-235	2 44E-001	5 65E-002	5 29E-002
U238/234	1 80E+000	2 44E-001	2 70E-001
AM-241	0 00E+000	0 00E+000	3 77E-002

SURVEY UNIT 334-A-004
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B334 (Interior - Upper Offices)

334-A-004
PDS Data Summary

<u>Total Surface Activity Measurements</u>			<u>Removable Activity Measurements</u>		
	20	20		20	
	Number Required	Number Obtained		Number Required	Number Obtained
MIN	-4.5	dpm/100 cm ²	MIN	-1.2	dpm/100 cm ²
MAX	43.2	dpm/100 cm ²	MAX	1.8	dpm/100 cm ²
MEAN	9.7	dpm/100 cm ²	MEAN	-0.3	dpm/100 cm ²
STD DEV	13.1	dpm/100 cm ²	STD DEV	0.9	dpm/100 cm ²
TRANSURANIC DCGL _w	100	dpm/100 cm ²	TRANSURANIC DCGL _w	20	dpm/100 cm ²

**SURVEY UNIT 334-A-004
TSA - DATA SUMMARY**

Manufacturer	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech
Model	DP-6	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#	1	2	3	4	5	6
Serial #	394	1250	2352	2343	2352	394
Cal Due Date:	1/12/03	10/10/02	2/7/03	10/2/02	2/7/03	1/12/03
Analysis Date:	9/12/02	9/12/02	9/12/02	9/24/02	9/24/02	9/24/02
Alpha Eff. (c/d)	0.226	0.213	0.238	0.223	0.238	0.226
Alpha Bkgrd (cpm)	4.0	0.0	8.0	2.0	2.0	2.0
Sample Time (min)	1.5	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm ²)	48.0	48.0	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm ²)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm ²)	Sample Net Activity (dpm/100cm ²) ^{1,2}
1	3	2.7	11.3	2	8.4	1.4
2	3	4.7	19.7	1.8	7.6	9.8
3	3	3.3	13.9	1.8	7.6	3.9
4	1	3.3	14.6	2.7	11.9	4.7
5	2	2	9.4	0.7	3.3	-0.5
6	1	8	35.4	2	8.8	25.5
7	3	3.3	13.9	2.5	10.5	3.9
8	3	2	8.4	6	25.2	1.5
9	2	6.7	31.5	0.7	3.3	21.5
10	3	1.3	5.5	2	8.4	-4.5
11	3	3.7	15.5	0.7	2.9	5.6
12	2	2.7	12.7	0	0.0	2.7
13	2	2.7	12.7	3.3	15.5	2.7
14	1	3.3	14.6	4.7	20.8	4.7
15	2	3.3	15.5	0.7	3.3	5.6
16	5	6	25.2	0.7	2.9	15.3
17	6	12	53.1	2.7	11.9	43.2
18	5	2.7	11.3	3.3	13.9	1.4
19	6	4	17.7	5.3	23.5	7.8
20	6	11.3	50.0	2	8.8	40.1

1 Average LAB used to subtract from Gross Sample Activity

9.9	Sample LAB Average
MIN	-4.5
MAX	43.2
MEAN	9.7
SD	13.1
Transuranic DCGL _W	100

QC Measurements

12 QC	4	5.3	23.8	8	35.9	1.4
14 QC	6	4	17.7	2	8.8	-4.7

1 Average QC LAB used to subtract from Gross Sample Activity

22.4	QC LAB Average
Transuranic DCGL _W	100

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**SURVEY UNIT 334-A-004
RSC - DATA SUMMARY**

Manufacturer	Eberline	Eberline	Eberline	Eberline
Model	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#	7	8	9	10
Serial #	824	966	963	952
Cal Due Date:	10/1/02	11/6/02	1/3/03	1/31/03
Analysis Date	9/24/02	9/24/02	9/24/02	9/24/02
Alpha Eff (c/d)	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.4	0.2	0.4	0.1
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm²)	9.0	9.0	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm ²)
1	7	10	0.3
2	8	00	-0.6
3	9	00	-1.2
4	10	00	-0.3
5	7	10	0.3
6	8	00	-0.6
7	9	00	-1.2
8	10	00	-0.3
9	7	00	-1.2
10	8	10	0.9
11	9	00	-1.2
12	10	00	-0.3
13	7	20	1.8
14	8	10	0.9
15	9	00	-1.2
16	10	00	-0.3
17	7	00	-1.2
18	8	00	-0.6
19	9	10	0.3
20	10	00	-0.3
		MIN	-1.2
		MAX	1.8
		MEAN	-0.3
		SD	0.9
		Transuranic DCGL_w	20

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SURVEY UNIT 334-A-005
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B334 (Interior - First Floor Offices)

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334-A-005
PDS Data Summary

<u>Total Surface Activity Measurements</u>			<u>Removable Activity Measurements</u>		
	54	54		54	54
	Number Required	Number Obtained		Number Required	Number Obtained
MIN	-14.5	dpm/100 cm ²	MIN	-1.8	dpm/100 cm ²
MAX	76.9	dpm/100 cm ²	MAX	2.4	dpm/100 cm ²
MEAN	6.2	dpm/100 cm ²	MEAN	0.3	dpm/100 cm ²
STD DEV	16.0	dpm/100 cm ²	STD DEV	1.0	dpm/100 cm ²
TRANSURANIC DCGL _w	100	dpm/100 cm ²	TRANSURANIC DCGL _w	20	dpm/100 cm ²

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**SURVEY UNIT 334-A-005
TSA - DATA SUMMARY**

Manufacturer	NE Tech	NE Tech	NE Tech	NE Tech	NE Tech
Model	DP-6	DP-6	DP-6	DP-6	DP-6
Instrument ID#	1	12	3	4	5
Serial #	394	3114	2352	394	1260
Cal Due Date	1/12/03	3/5/03	2/7/03	1/12/03	2/21/03
Analysis Date	9/24/02	10/2/02	9/24/02	9/30/02	10/1/02
Alpha Eff. (c/d)	0.226	0.222	0.238	0.226	0.219
Alpha Bkgd (cpm)	2.0	0.7	2.0	4.0	6.0
Sample Time (min)	1.5	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5	1.5
MDC (dpm/100cm ²)	48.0	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm ²)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm ²)	Sample Net Activity (dpm/100cm ²) ¹
1	4	4	17.7	13	5.8	0.1
2	4	2.7	11.9	4	17.7	-5.6
3	1	7.3	32.3	4	17.7	14.7
4	4	0.7	3.1	13	5.8	-14.5
5	4	7.3	32.3	33	14.6	14.7
6	5	14	63.9	73	33.3	46.3
7	1	5.3	23.5	8	35.4	5.9
8	1	3.3	14.6	2	8.8	-3.0
9	4	4	17.7	4	17.7	0.1
10	4	7.3	32.3	0	0.0	14.7
11	4	6	26.5	4	17.7	9.0
12	4	8	35.4	8	35.4	17.8
13	3	9.3	39.1	6.7	28.2	21.5
14	1	4	17.7	6.7	29.6	0.1
15	4	1.3	5.8	13	5.8	-11.8
16	5	20.7	94.5	8	36.5	76.9
17	4	6	26.5	2	8.8	9.0
18	3	9.3	39.1	8	33.6	21.5
19	3	6.7	28.2	2.7	11.3	10.6
20	5	11.3	51.6	6.7	30.6	34.0
21	1	4	17.7	4.7	20.8	0.1
22	4	10	44.2	2	8.8	26.7
23	4	3.3	14.6	3.3	14.6	-3.0
24	5	3.3	15.1	13	5.9	-2.5
25	4	3.3	14.6	5.3	23.5	-3.0
26	4	2	8.8	4	17.7	-8.7
27	4	6	26.5	2	8.8	9.0
28	4	2.7	11.9	2	8.8	-5.6
29	4	5.3	23.5	4.7	20.8	5.9
30	4	3.3	14.6	2.7	11.9	-3.0
31	4	9.3	41.2	5.3	23.5	23.6
32	4	3.3	14.6	1.3	5.8	-3.0
33	4	3.3	14.6	6.7	29.6	-3.0
34	4	2.7	11.9	4	17.7	-5.6
35	4	6.7	29.6	2.7	11.9	12.1
36	12	8.7	39.2	6	27.0	21.6
37	12	4	18.0	4	18.0	0.4
38	12	2	9.0	3.3	14.9	-8.6

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**SURVEY UNIT 334-A-005
TSA - DATA SUMMARY**

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm2)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm2)	Sample Net Activity (dpm/100cm2) ¹
39	12	4.7	21.2	6	27.0	3.6
40	12	4.7	21.2	3.3	14.9	3.6
3	1	2	8.8	4.7	20.8	-8.7
5	4	6	26.5	2.7	11.9	9.0
8	1	6	26.5	4.7	20.8	9.0
9	4	5.3	23.5	2	8.8	5.9
21	1	4.7	20.8	2.7	11.9	3.2
22	4	1.3	5.8	4	17.7	-11.8
23	4	3.3	14.6	4	17.7	-3.0
24	5	10	45.7	6.7	30.6	28.1
25	4	2.7	11.9	2	8.8	-5.6
26	4	3.3	14.6	4.7	20.8	-3.0
27	4	1.3	5.8	2.7	11.9	-11.8
28	4	2	8.8	2.7	11.9	-8.7
29	4	5.3	23.5	4.7	20.8	5.9
30	4	5.3	23.5	2	8.8	5.9

¹ Average LAB used to subtract from Gross Sample Activity

17.6	Sample LAB Average
MIN	-14.5
MAX	76.9
MEAN	6.2
SD	16.0
Transuranic DCGL _w	100

QC Measurements

35 QC	12	4.7	21.2	3.3	14.9	3.2
11 QC	12	6.7	30.2	4.7	21.2	12.2
29 QC	12	2	9.0	4	18.0	-9.0

¹ - Average QC LAB used to subtract from Gross Sample Activity

18.0	QC LAB Average
MIN	-9.0
MAX	12.2
MEAN	2.1
Transuranic DCGL _w	100

**SURVEY UNIT 334-A-005
RSC - DATA SUMMARY**

Manufacturer-	Eberline	Eberline	Eberline	Eberline	Eberline
Model	SAC-4	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#	8	9	10	11	13
Serial #	959	966	963	952	959
Cal Due Date	1/18/03	11/6/02	1/3/03	1/31/03	1/18/03
Analysis Date	10/1/02	10/1/02	10/1/02	10/1/02	10/7/02
Alpha Eff (c/d)	0.33	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.0	0.1	0.2	0.1	0.6
Sample Time (min)	2	2	2	2	2
Bkgd Time (min)	10	10	10	10	10
MDC (dpm/100cm²)	9.0	9.0	9.0	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm²)
1	8	0.0	0.0
2	9	0.0	-0.3
3	10	0.0	-0.6
4	11	0.0	-0.3
5	8	0.0	0.0
6	9	0.0	-0.3
7	10	2.0	2.4
8	11	0.0	-0.3
9	8	0.0	0.0
10	9	1.0	1.2
11	10	0.0	-0.6
12	11	0.0	-0.3
13	8	0.0	0.0
14	9	0.0	-0.3
15	10	1.0	0.9
16	11	0.0	-0.3
17	8	1.0	1.5
18	9	0.0	-0.3
19	10	2.0	2.4
20	11	0.0	-0.3
21	8	0.0	0.0
22	9	0.0	-0.3
23	10	1.0	0.9
24	11	0.0	-0.3
25	8	1.0	1.5
26	9	1.0	1.2
27	10	0.0	-0.6
28	11	0.0	-0.3
29	8	1.0	1.5
30	9	1.0	1.2
31	10	0.0	-0.6
32	11	0.0	-0.3
33	8	0.0	0.0
34	9	0.0	-0.3
35	10	2.0	2.4
36	13	1.0	-0.3
37	13	0.0	-1.8
38	13	0.0	-1.8

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**SURVEY UNIT 334-A-005
RSC - DATA SUMMARY**

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm ²)
39	13	2.0	1.2
40	13	1.0	-0.3
3	8	0.0	0.0
5	9	0.0	-0.3
8	10	1.0	0.9
9	11	0.0	-0.3
21	8	1.0	1.5
22	9	0.0	-0.3
23	10	1.0	0.9
24	11	1.0	1.2
25	8	0.0	0.0
26	9	0.0	-0.3
27	10	1.0	0.9
28	11	1.0	1.2
29	8	0.0	0.0
30	9	1.0	1.2
		MIN	-1.8
		MAX	2.4
		MEAN	0.3
		SD	1.0
		Transuranic DCGL _w	20

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SURVEY UNIT 334-B-006
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B334 (Exterior - High Bay)

334-B-006
PDS Data Summary

Total Surface Activity Measurements

	50	50
	Number Required	Number Obtained
MIN	-9.6	dpm/100 cm ²
MAX	96.5	dpm/100 cm ²
MEAN	31.5	dpm/100 cm ²
STD DEV	19.0	dpm/100 cm ²
TRANSURANIC DCGL _w	100	dpm/100 cm ²

Removable Activity Measurements

	50	50
	Number Required	Number Obtained
MIN	-1.2	dpm/100 cm ²
MAX	3.3	dpm/100 cm ²
MEAN	0.3	dpm/100 cm ²
STD DEV	1.1	dpm/100 cm ²
TRANSURANIC DCGL _w	20	dpm/100 cm ²

**SURVEY UNIT 334-B-006
TSA - DATA SUMMARY**

Manufacturer	NE Tech	NE Tech	NE Tech	NE Tech
Model	DP-6	DP-6	DP-6	DP-6
Instrument ID#	1	2	3	4
Serial #	1260	3114	394	1250
Cal Due Date	2/21/03	3/5/03	1/12/03	10/10/02
Analysis Date	9/17/02	9/19/02	9/19/02	9/19/02
Alpha Eff. (c/d)	0.219	0.222	0.226	0.213
Alpha Bkgd (cpm)	3.3	0.7	2.7	1.0
Sample Time (min)	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5
MDC (dpm/100cm ²)	48.0	48.0	48.0	48.0

Manufacturer	NE Tech	NE Tech	NE Tech	NE Tech
Model	DP-6	DP-6	DP-6	DP-6
Instrument ID#	5	6	7	8
Serial #	3114	394	2343	2343
Cal Due Date	3/5/03	1/12/03	10/2/02	10/2/02
Analysis Date	9/20/02	9/20/02	9/20/02	9/23/02
Alpha Eff. (c/d)	0.222	0.226	0.223	0.223
Alpha Bkgd (cpm)	2.7	3.3	0.7	2.0
Sample Time (min)	1.5	1.5	1.5	1.5
LAB Time (min)	1.5	1.5	1.5	1.5
MDC (dpm/100cm ²)	48.0	48.0	48.0	48.0

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm ²)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm ²)	Sample Net Activity (dpm/100cm ²) ^{1,2}
1	1	25.3	115.5	8	36.5	96.5
2	5	7.3	32.9	4.7	21.2	13.9
3	5	12.7	57.2	4.7	21.2	38.2
4	5	10	45.0	4.7	21.2	26.0
5	2	20	90.1	4.7	21.2	71.1
6	7	10.7	48.0	2	9.0	29.0
7	6	11.3	50.0	3.3	14.6	31.0
8	7	11.3	50.7	3.3	14.8	31.7
9	5	6	27.0	7.3	32.9	8.0
10	4	16	75.1	5.3	24.9	56.1
11	6	11.3	50.0	4	17.7	31.0
12	6	6.7	29.6	6	26.5	10.7
13	7	8	35.9	2	9.0	16.9
14	1	14.7	67.1	5.3	24.2	48.1
15	3	13.3	58.8	4	17.7	39.9
16	5	11.3	50.9	2.7	12.2	31.9
17	7	8.7	39.0	2	9.0	20.0
18	1	15.3	69.9	8	36.5	50.9
19	2	12	54.1	4	18.0	35.1
20	7	12.7	57.0	3.3	14.8	38.0
21	1	10.7	48.9	8	36.5	29.9
22	4	4.7	22.1	3.3	15.5	3.1
23	7	10.7	48.0	1.3	5.8	29.0
24	6	13.3	58.8	6	26.5	39.9
25	6	12	53.1	6	26.5	34.1
26	6	8	35.4	2	8.8	16.4
27	3	11.3	50.0	2.7	11.9	31.0
28	7	14.7	65.9	2	9.0	46.9
29	6	8	35.4	2	8.8	16.4
30	3	12	53.1	4	17.7	34.1
31	3	12.7	56.2	4.7	20.8	37.2

**SURVEY UNIT 334-B-006
TSA - DATA SUMMARY**

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm ²)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm ²)	Sample Net Activity (dpm/100cm ²) ^{1,2}
32	6	4	17.7	1.3	5.8	-1.3
33	2	14	63.1	4.7	21.2	44.1
34	5	14	63.1	4	18.0	44.1
35	4	4.7	22.1	2	9.4	3.1
36	1	14	63.9	3.3	15.1	44.9
37	1	9.3	42.5	6.7	30.6	23.5
38	5	13.3	59.9	6	27.0	40.9
39	4	2	9.4	4	18.8	9.6
40	6	7.3	32.3	3.3	14.6	13.3
41	6	19.3	85.4	4	17.7	66.4
42	4	6.7	31.5	2.7	12.7	12.5
43	2	12	54.1	6	27.0	35.1
44	3	15.3	67.7	6.2	27.4	48.7
45	4	9.3	43.7	3.3	15.5	24.7
46	5	14	63.1	5.3	23.9	44.1
47	6	10.7	47.3	5.3	23.5	28.3
48	7	9.3	41.7	2.7	12.1	22.7
49	6	12.7	56.2	6.7	29.6	37.2
50	7	6.7	30.0	2	9.0	11.0

1 Average LAB used to subtract from Gross Sample Activity

2 A window ledge near location 9 indicated elevated alpha activity of 153.5 dpm/100cm² during the scan survey

Nine TSA and LAB measurements were collected. The average Net Sample Activity was calculated to be 73.6 dpm/100cm²

No further investigation is required

3 Concrete near locations 36 and 45 indicated elevated alpha activity up to 166.2 dpm/100cm² during the scan survey

Media samples were collected from these locations and analyzed using the Canberra ISOCS system.

No transuranic isotopes were detected. Activity was determined to be from uranium and naturally occurring isotopes

All survey results are less than the applicable DCGLs, therefore no further investigation is required

19.0	Sample LAB Average
MIN	9.6
MAX	96.5
MEAN	31.5
SD	19.0
Transuranic DCGL _W	100

QC Measurements

36 QC	8	4.7	21.1	4.7	21.1	4.0
15 QC	8	7.3	32.7	4	17.9	15.7
34 QC	8	8	35.9	2.7	12.1	18.8

1 Average QC LAB used to subtract from Gross Sample Activity

17.0	QC LAB Average
Transuranic DCGL _W	100

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**SURVEY UNIT 334-B-006
RSC - DATA SUMMARY**

Manufacturer	Eberline	Eberline	Eberline	Eberline
Model	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#	12	13	14	15
Serial #	824	966	963	952
Cal Due Date	10/1/02	11/6/02	1/3/03	1/31/03
Analysis Date	9/24/02	9/24/02	9/24/02	9/24/02
Alpha Eff (c/d)	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.4	0.2	0.4	0.1
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm²)	9.0	9.0	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm²)
1	12	0	-1.2
2	13	0	0.0
3	14	1	0.3
4	15	0	0.0
5	12	0	-1.2
6	13	0	0.0
7	14	2	1.8
8	15	0	0.0
9	12	2	1.8
10	13	0	0.0
11	14	1	0.3
12	15	0	0.0
13	12	1	0.3
14	13	0	0.0
15	14	0	-1.2
16	15	0	0.0
17	12	1	0.3
18	13	0	0.0
19	14	1	0.3
20	15	0	0.0
21	12	1	0.3
22	13	1	1.5
23	14	1	0.3
24	15	0	0.0
25	12	2	1.8
26	13	0	0.0
27	14	0	-1.2
28	15	0	0.0
29	12	0	-1.2
30	13	1	1.5
31	14	0	-1.2
32	15	0	0.0
33	12	0	-1.2
34	13	0	0.0
35	14	3	3.3
36	15	0	0.0
37	12	0	-1.2
38	13	1	1.5
39	14	3	3.3

**SURVEY UNIT 334-B-006
RSC - DATA SUMMARY**

40	15	0	0 0
41	12	2	1 8
42	13	0	0 0
43	14	2	1 8
44	15	0	0 0
45	12	0	-1 2
46	13	0	0 0
47	14	2	1 8
48	15	0	0 0
49	12	2	1 8
50	13	0	0 0
		MIN	-1 2
		MAX	3 3
		MEAN	0 3
		SD	1 1
		Transuranic DCGL _w	20

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***** GAMMA SPECTRUM ANALYSIS *****
** Canberra Mobile Laboratory Services **

Report Generated On : 10/08/2002 10.26 15 AM

RIN Number : 03S0004
Analytical Batch ID : 0210044732
Line Item Code : RC10B019

Filename A \G1900067 CNF

Sample Number : 03S0004-019.001
Lab Sample Number : CMLS1763
Sample Receipt Date : 10/04/2002
Sample Volume Received : 3.57E+001 GRAM

B334 EAST DOCK
SCAN INVESTIGATION
NEAR LOCATION 45

Result Identifier NA

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 100 - 8192
Peak Area Range (in channels) : 100 - 8192
Identification Energy Tolerance : 1.000 keV

Sample (Final Aliquot Size) : 3.570E+001 GRAM
Sample Quantity Error : 0.000E+000
Systematic Error Applied : 0.000E+000

Sample Taken On : 10/04/2002 8 50 00 AM
Acquisition Started : 10/07/2002 9 13 26 AM

Count Time : 86400.0 seconds
Real Time : 86468.3 seconds
Dead Time : 0.08 %

Energy Calibration Used Done On : 10/01/02
Energy = -0.204 + 0.250*ch + -5.33E-008*ch^2 + 5.11E-012*ch^3

Corrections Applied.
None

Efficiency Calibration Used Done On : 10/07/02
Efficiency Geometry ID : 03S0004-019.001

Analyzed By: Marilyn Umbaugh Date: 10/8/02

Reviewed By: Sean Stanfield Date: 10/8/02

Sample and QC Sample Results Summary 10/08/02 10 26 15 AM Page 2

 ***** Sample and QC Sample Results Summary *****

Site Sample ID 03S0004-019 001

Analytical Batch ID 0210044732

Sample Type (Result Identifier) G19

Lab Sample Number CMLS1763

Geometry ID 03S0004-019 001

Filename A \G1900067 CNF

Detector Name BEGE4732

MDA = Curie method as specified in Genie-2000 Customization Tools Manual
 Appendix B, Basic Algorithms

Analyte	Activity (pCi/GRAM)	2-Sigma Uncertainty (pCi/GRAM)	MDA (pCi/GRAM)
K-40	2 14E+001	1 98E+000	3 01E+000
CS-137	0 00E+000	0 00E+000	1 16E-001
TL-208	3 08E-001	5 78E-002	9 05E-002
PO-210	6.99E+003	5 18E+003	8 60E+003
BI-212	0 00E+000	0 00E+000	1 64E+000
PB-212	5 81E-001	4 44E-002	8 09E-002
BI-214	5 94E-001	1 26E-001	2 06E-001
PB-214	5 82E-001	7 24E-002	1 73E-001
RA-226	1 29E+000	1.36E+000	1 04E+000
AC-228	8 19E-001	2 29E-001	3 31E-001
TH-230	0 00E+000	0 00E+000	7 36E+000
Th-231	3 93E-001	1.24E-001	2 82E-001
PA-234	0 00E+000	0 00E+000	9 88E-002
PA-234M	0 00E+000	0 00E+000	1 32E+001
U-235	3 20E-001	7 24E-002	6 42E-002
U238/234	1 56E+000	4 05E-001	3 42E-001
AM-241	0 00E+000	0 00E+000	6 67E-002



Analysis Results Header

10/10/2002 11 05 14 AM

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***** GAMMA SPECTRUM ANALYSIS *****
** Canberra Mobile Laboratory Services **

Report Generated On : 10/10/2002 11:05:14 AM

RIN Number : 03S0004
Analytical Batch ID : 0210044732
Line Item Code : RC10B019

Filename: A:\G1900069.CNF

Sample Number : 03S0004-023 001
Lab Sample Number : CMLS-1765
Sample Receipt Date : 10/04/2002
Sample Volume Received : 7.20E+000 Grams

Result Identifier : N/A

Peak Locate Threshold : 2.50
Peak Locate Range (in channels) : 100 - 8192
Peak Area Range (in channels) : 100 - 8192
Identification Energy Tolerance : 1 000 keV

Sample (Final Aliquot Size) : 7 200E+000 Grams
Sample Quantity Error : 0.000E+000
Systematic Error Applied : 0.000E+000

Sample Taken On : 10/04/2002 8 50 00 AM
Acquisition Started : 10/09/2002 7 42 14 AM

Count Time : 86400 0 seconds
Real Time : 86468 5 seconds
Dead Time : 0 08 %

Energy Calibration Used Done On : 10/01/02
Energy = -0.204 + 0.250*ch + -5.33E-008*ch^2 + 5.11E-012*ch^3

Corrections Applied:
None

Efficiency Calibration Used Done On : 10/07/02
Efficiency Geometry ID : 03S0004-023.001

Analyzed By: Marilyn Umbaugh Date: 10/10/02Reviewed By: Sheri Chambers Date: 10/10/02

Media Sample # 2
B334 High Bay Interior
+
LOCATION 36 SCAN
Investigation
B334 High Bay Exterior

 ***** Sample and QC Sample Results Summary *****

Site Sample ID : 03S0004-023.001

Analytical Batch ID : 0210044732

Sample Type (Result Identifier): G19

Lab Sample Number : CMLS-1765

Geometry ID : 03S0004-023 001

Filename: A:\G1900069.CNF

Detector Name: BEGE4732

MDA = Curie method as specified in Genie-2000 Customization Tools Manual
 Appendix B, Basic Algorithms.

Analyte	Activity (pCi/Grams)	2-Sigma Uncertainty (pCi/Grams)	MDA (pCi/Grams)
K-40	8 54E+001	5.13E+000	6 37E+000
CS-137	6.11E-001	5.27E-001	8 82E-001
TL-208	8.87E-001	2 10E-001	3 31E-001
PO-210	0.00E+000	0.00E+000	4.18E+004
BI-212	4.80E+000	3.47E+000	5.77E+000
PB-212	1 99E+000	1 56E-001	2 81E-001
BI-214	2.95E+000	4 71E-001	7.80E-001
PB-214	2.67E+000	2 42E-001	4.76E-001
RA-226	8.46E+000	5 57E+000	4.04E+000
AC-228	1.12E+000	5 89E-001	1 21E+000
TH-230	0.00E+000	0.00E+000	2.42E+001
Th-231	7 91E-001	4 32E-001	1 07E+000
PA-234	0 00E+000	0 00E+000	3 45E-001
PA-234M	0.00E+000	0 00E+000	4.59E+001
U-235	1.01E+000	3 03E-001	2 50E-001
U238/234	8 58E+000	2 02E+000	1.25E+000
AM-241	0 00E+000	0 00E+000	2.07E-001

SURVEY UNIT 334-B-007
RADIOLOGICAL DATA SUMMARY - PDS

Survey Unit Description: B334 (Exterior West Addition)

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334-B-007
PDS Data Summary

<u>Total Surface Activity Measurements</u>			<u>Removable Activity Measurements</u>		
	20	21		20	
	Number Required	Number Obtained		Number Required	Number Obtained
MIN	-7.1	dpm/100 cm ²	MIN	-1.2	dpm/100 cm ²
MAX	96.6	dpm/100 cm ²	MAX	3.3	dpm/100 cm ²
MEAN	36.0	dpm/100 cm ²	MEAN	0.5	dpm/100 cm ²
STD DEV	29.1	dpm/100 cm ²	STD DEV	1.4	dpm/100 cm ²
TRANSURANIC DCGL _w	100	dpm/100 cm ²	TRANSURANIC DCGL _w	20	dpm/100 cm ²

**SURVEY UNIT 334-B-007
TSA - DATA SUMMARY**

Manufacturer	NE Tech	NE Tech
Model	DP-6	DP-6
Instrument ID#	1	2
Serial #	394	2352
Cal Due Date	1/12/03	2/7/03
Analysis Date	9/23/02	9/23/02
Alpha Eff (c/d)	0.226	0.238
Alpha Bkgd (cpm)	2.0	3.3
Sample Time (min)	1.5	1.5
LAB Time (min)	1.5	1.5
MDC (dpm/100cm ²)	48.0	48.0

Sample Location Number	Instrument ID#	Sample Gross Counts (cpm)	Sample Gross Activity (dpm/100cm ²)	LAB Gross Counts (cpm)	LAB Gross Activity (dpm/100cm ²)	Sample Net Activity (dpm/100cm ²) ^{1,2}
1	2	14.7	61.8	6	25.2	43.3
2	1	17.3	76.5	7.3	32.3	58.1
3	1	10	44.2	6.7	29.6	25.8
4	1	16.7	73.9	4.7	20.8	55.4
5	2	24.7	103.8	2.7	11.3	85.3
6	2	11.3	47.5	3.3	13.9	29.0
7	2	2.7	11.3	2	8.4	7.1
8	2	24	100.8	3.3	13.9	82.4
9	1	15.3	67.7	4	17.7	49.2
10	1	9.3	41.2	4	17.7	22.7
11	1	17.3	76.5	3.3	14.6	58.1
12	2	14.7	61.8	4	16.8	43.3
13	1	26	115.0	2.7	11.9	96.6
14	2	6	25.2	4.7	19.7	6.7
15	2	8.7	36.6	2.7	11.3	18.1
16	1	8	35.4	6.7	29.6	16.9
17	1	10.7	47.3	5.3	23.5	28.9
18	1	10	44.2	6.7	29.6	25.8
19	2	3.3	13.9	2	8.4	-4.6
20	1	9.3	41.2	2.7	11.9	22.7
21	2	75	315.1	4.7	19.7	0.0

1 Average LAB used to subtract from Gross Sample Activity

18.5	Sample LAB Average
MIN	7.1
MAX	96.6
MEAN	36.0
SD	29.1
Transuranic DCGL _w	100

QC Measurements

6 QC	1	12	53.1	1.3	5.8	41.8
11 QC	2	10.7	45.0	4	16.8	33.7

1 Average QC LAB used to subtract from Gross Sample Activity

11.3	QC LAB Average
MIN	33.7
MAX	41.8
MEAN	37.7
Transuranic DCGL _w	100

2 The initial Sample Net Activity for location 21 was 315.1 dpm/100cm²

A coupon sample was collected from location 21 and analyzed using the Canberra ISOCSS system. No transuranic isotopes were detected. Exposed metal sample activity was determined to be from uranium and naturally occurring isotopes. The Sample Net Activity for this location is below the uranium DCGL_h limits (5000 dpm/100cm²). All survey results are less than the applicable DCGLs therefore no further investigation is required. On this basis the transuranic value for location 21 is reported as zero (0) net activity in the TSA Data Summary.

**SURVEY UNIT 334-B-007
RSC - DATA SUMMARY**

Manufacturer	Eberline	Eberline	Eberline	Eberline
Model	SAC-4	SAC-4	SAC-4	SAC-4
Instrument ID#	3	4	5	6
Serial #	824	966	963	952
Cal Due Date	10/1/02	11/6/02	1/3/03	1/31/03
Analysis Date	9/24/02	9/24/02	9/24/02	9/24/02
Alpha Eff (c/d)	0.33	0.33	0.33	0.33
Alpha Bkgd (cpm)	0.4	0.2	0.4	0.1
Sample Time (min)	2	2	2	2
Bkgd Time (min)	10	10	10	10
MDC (dpm/100cm²)	9.0	9.0	9.0	9.0

Sample Location Number	Instrument ID#	Gross Counts (cpm)	Net Activity (dpm/100 cm ²)
1	3	00	-1.2
2	4	00	-0.6
3	5	10	0.3
4	6	00	-0.3
5	3	10	0.3
6	4	00	-0.6
7	5	20	1.8
8	6	10	1.2
9	3	10	0.3
10	4	00	-0.6
11	5	00	1.2
12	6	00	-0.3
13	3	00	-1.2
14	4	10	0.9
15	5	30	3.3
16	6	10	1.2
17	3	20	1.8
18	4	00	-0.6
19	5	20	1.8
20	6	20	2.7
		MIN	-1.2
		MAX	3.3
		MEAN	0.5
		SD	1.4
		Transuranic DCGL_w	20

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Analysis Results Header

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Page 1

***** GAMMA SPECTRUM ANALYSIS *****
** Canberra Mobile Laboratory Services **

Report Generated On . 10/09/2002 8 28 58 AM

RIN Number 03S0004
Analytical Batch ID 0210044732
Line Item Code RC10B019

Filename A \G1900068 CNF

Sample Number 03S0004-022.001
Lab Sample Number . CMLS-1764
Sample Receipt Date 10/04/2002
Sample Volume Received 2 61E+001 Grams

Result Identifier . N/A

Peak Locate Threshold 2 50
Peak Locate Range (in channels) . 100 - 8192
Peak Area Range (in channels) . 100 - 8192
Identification Energy Tolerance 1 000 keV

Sample (Final Aliquot Size) 2 610E+001 Grams
Sample Quantity Error 0 000E+000
Systematic Error Applied 0 000E+000

Sample Taken On 10/03/2002 1 30:00 PM
Acquisition Started 10/08/2002 2:18:48 PM

Count Time 28800 0 seconds
Real Time 28822 4 seconds
Dead Time 0 08 %

Energy Calibration Used Done On . 10/01/02
Energy = -0 204 + 0 250*ch + -5 33E-008*ch^2 + 5 11E-012*ch^3

Corrections Applied
None

Efficiency Calibration Used Done On 10/07/02
Efficiency Geometry ID 03S0004-022 001

Analyzed By Marilyn Umbaugh Date: 10/8/02Reviewed By Sean Stanfield Date 10/8/02

*metal coupons
T334B, B334 Roof
B334 Flashing*

Sample and QC Sample Results Summary 10/09/02 8 28 58 AM Page 2

 ***** Sample and QC Sample Results Summary *****

Site Sample ID 03S0004-022 001

Analytical Batch ID 0210044732

Sample Type (Result Identifier) G19

Lab Sample Number CMLS-1764

Geometry ID 03S0004-022 001

Filename A \G1900068 CNF

Detector Name. BEGE4732

MDA = Curie method as specified in Genie-2000 Customization Tools Manual
 Appendix B, Basic Algorithms

Analyte	Activity (pCi/Grams)	2-Sigma Uncertainty (pCi/Grams)	MDA (pCi/Grams)
K-40	1 85E+001	2 00E+000	2 47E+000
CS-137	0 00E+000	0 00E+000	2 01E-001
TL-208	1 66E-001	1 82E-001	3 06E-001
PO-210	0 00E+000	0 00E+000	1 93E+004
BI-212	0 00E+000	0 00E+000	2 80E+000
PB-212	2 09E-001	1 16E-001	1 91E-001
BI-214	0 00E+000	0 00E+000	4 13E-001
PB-214	1 14E-001	6 63E-002	1 66E-001
RA-226	0 00E+000	0.00E+000	2 07E+000
AC-228	0 00E+000	0 00E+000	8 26E-001
TH-230	0 00E+000	0 00E+000	1 59E+001
Th-231	3 76E-001	1 87E-001	5 41E-001
PA-234	0 00E+000	0 00E+000	1 76E-001
PA-234M	0 00E+000	0 00E+000	2 35E+001
U-235	3 73E-001	7 09E-002	1 28E-001
U238/234	1 70E+000	4 79E-001	6 60E-001
AM-241	0 00E+000	0 00E+000	1 60E-001

ATTACHMENT D

Chemical Data Summaries and Sample Maps

Asbestos Data Summary

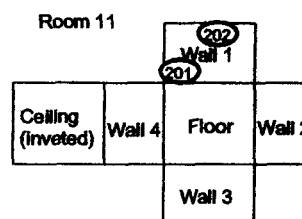
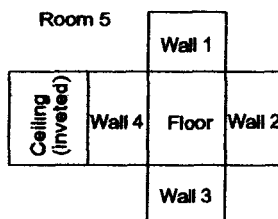
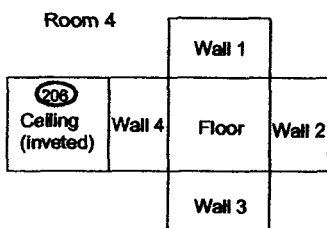
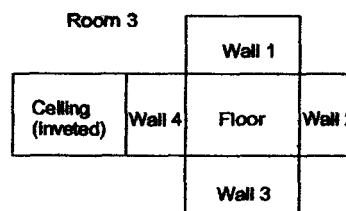
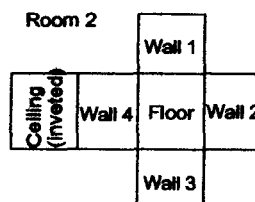
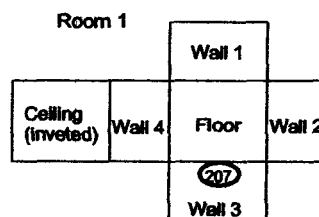
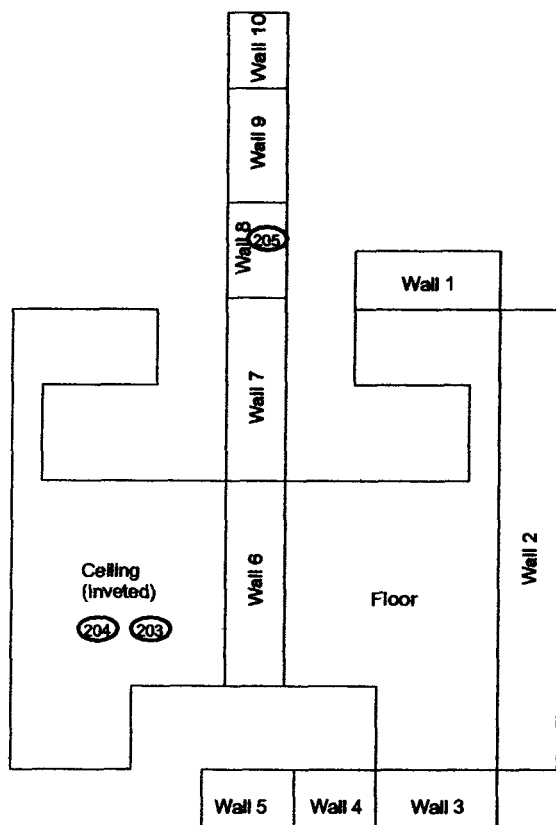
Sample Number	Map Survey Point Location	Room	Sample Location	Result (ug/100 cm ²)
T334B				
T334B-09102002-315-201	201	11	Drywall and joint compound with white, textured paint	None Detected
T334B-09102002-315-202	202	11	Joint compound with white, textured paint	None Detected
T334B-09102002-315-203	203	Main	2' x 4' acoustical, white drop ceiling tile with large "worm" pattern	None Detected
T334B-09102002-315-204	204	Main	2' x 4' acoustical, plain white drop ceiling tile	None Detected
T334B-09102002-315-205	205	Main	Drywall and joint compound with white, textured paint	None Detected
T334B-09102002-315-206	206	4	2' x 4' acoustical, white drop ceiling tile with large "worm" pattern	None Detected
T334B-09102002-315-207	207	1	Drywall and joint compound with white, textured paint	None Detected
T334D				
T334B-09102002-315-208	208	Main	Drywall panel with white & tan fabric	None Detected
T334D09102002-315-209	209	Main	2' x 4' acoustical, white drop ceiling tile with large "worm" pattern	None Detected
334				
334-09102002-315-210	210	105H	White troweled on paint/texture	None Detected
334-09102002-315-211	211	109	Window caulking, south wall in Men's locker room	3% Chrysotile, 1 25% Point Count
334-09102002-315-212	212	128	2' x 4' acoustical, white drop ceiling tile with large "worm" pattern	2% Chrysotile, 2 75% Point Count
334-09102002-315-213	213	128 Hall	Drywall with white, textured paint	None Detected
334-09102002-315-214	214	136	White paint on north CMU wall	None Detected
334-09102002-315-215	215	103	Window caulking, west wall	None Detected
334-09102002-315-216	216	201	Transite partition wall	None Detected
334-09102002-315-217	217	209D	Window caulking, north wall	10% Chrysotile
334-09102002-315-218	218	211	Window caulking, south wall	2% Chrysotile, 0 5% Point Count
334-09102002-315-219	219	102	Beige paint on east CMU wall	2% Chrysotile, 0 25% Point Count
334-09102002-315-220	220	102	Beige paint on east CMU wall	3% Chrysotile, 1% Point Count
334-09102002-315-221	221	108	Window caulking, east wall	2% Chrysotile, 0 75% Point Count
334-09102002-315-222	222	115	White paint on east CMU wall	None Detected
334-09102002-315-223	223	107	White paint on west CMU wall, Men's room	2% Chrysotile, 0 75% Point Count
334-09102002-315-224	224	146	Beige paint on exterior CMU wall	Trace Chrysotile, <0 25% Point Count
334-09102002-315-225	225	146	Beige paint on exterior CMU wall	None Detected
334-09102002-315-226	226	125	Beige paint on exterior CMU wall	None Detected
334-09102002-315-227	227	124A	Beige paint on exterior CMU wall	None Detected
334-09102002-315-228	228	127	Beige paint on exterior CMU wall	None Detected

CHEMICAL SAMPLE MAP

T334B Interior

PAGE 1 OF 1

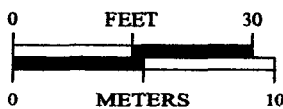
T334B Interior



SURVEY MAP LEGEND

- ⊙ Asbestos Sample Location
- △ Beryllium Sample Location
- # Lead Sample Location
- ◇ RCRA/CERCLA Sample Location
- ⊛ PCB Sample Location

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1 inch = 24 feet 1 grid sq = 1 sq m.

U S Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GIS Dept. 303-696-7707

Prepared for:

DynCorp

THE ART OF TECHNOLOGY

MAP ID 02-0589/T334B-IN-ASB

Sept 9, 2002

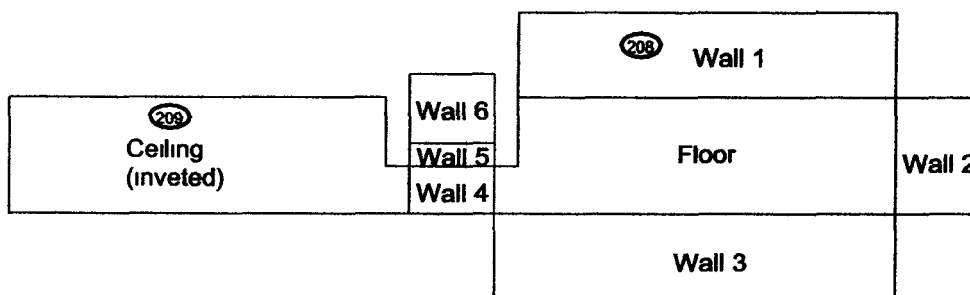
102

CHEMICAL SAMPLE MAP

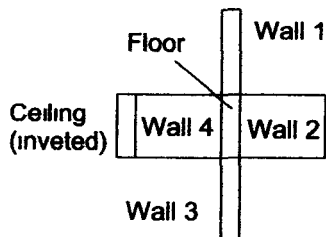
T334D Interior

PAGE 1 OF 1

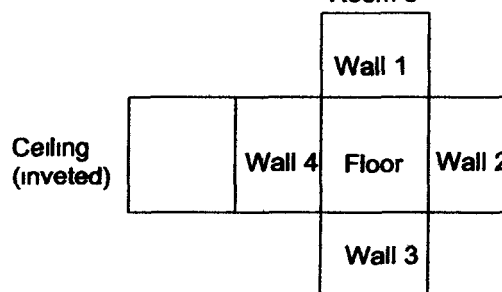
T334D Interior



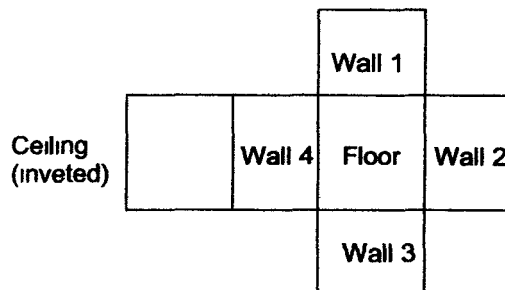
Closet



Room 6



Room 1

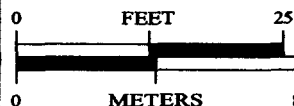


SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location

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- Open/Inaccessible Area
- Area in Another Survey Unit



1 inch = 18 feet 1 sq. m. = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by GIS Dept 303-666-7707

Prepared for:

DynCorp

THE ART OF TECHNOLOGY

MAP ID 62-0589/T334D-IN-ASB

Sept 9, 2002

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ASBESTOS INSPECTION
AND
OPERATIONS AND MAINTENANCE PLAN
FOR
BUILDING 334
ROCKY FLATS ENVIRONMENTAL TECHNOLOGY SITE
GOLDEN, COLORADO

SECTION I
(INTRODUCTION, METHODOLOGY, ASBESTOS INSPECTION)

PREPARED FOR

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS FIELD OFFICE, BUILDING B131
P.O. BOX 928
GOLDEN, COLORADO 80402

PROJECT NO. 108230

APRIL 22, 1996

 **SITEX**
Environmental, Inc

11905 Borman Drive
St Louis MO 63146

(314) 569-1119

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INTRODUCTION

SITEX Environmental, Inc (SITEX) was retained by the U S Department of Energy, Rocky Flats Field Office in Golden, Colorado to conduct an asbestos inspection and develop an operations and maintenance plan (O&M) for Building 334 located at the Rocky Flats Environmental Technology Site on U S Highway 93 in Golden, Colorado This site is presently an industrial complex which was formerly used to manufacture nuclear weapons

The asbestos inspection and O&M plan preparation was conducted in accordance with applicable asbestos regulations of the Occupational Safety and Health Administration (OSHA) and U S Environmental Protection Agency (EPA) Pertinent OSHA asbestos regulations are contained in Title 29 of the Code of Federal Regulations (CFR), Parts 1910 1001 and 1926 1101 EPA asbestos regulations adhered to were based on by the Asbestos School Hazard Abatement Reauthorization Act (ASHARA) which amended the Asbestos Hazard Emergency Response Act (AHERA) or Title II of the Toxic Substance Control Act (TSCA) to extend training and accreditations described in the asbestos Model Accreditation Plan (MAP) to public and commercial buildings AHERA was originally mandated to address asbestos-containing building materials located in public and private schools grades kindergarten through 12th Regulations concerning ASHARA, AHERA and MAP are found in Title 40 of the CFR Part 763 OSHA and EPA regulations are presented in Appendices A through E

The asbestos inspection included the collection of bulk material samples of all suspect asbestos-containing materials in the form of surfacing materials, thermal system insulation and miscellaneous materials The sampled materials are identified by space locations, area descriptions, sample numbers, photographic numbers and bulk material sample results Asbestos-containing materials are further defined by material classification with a recommended response actions Bulk sample results and a photographic log contain the percent and type of asbestos found in sampled materials and the photograph number of the photograph depicting the sampled material Also presented are potential exposure concerns and a drawing indicating asbestos-containing materials

The O&M plan contains procedures to allow qualified asbestos personnel to properly address small-scale, short duration asbestos projects and record keeping forms to assist in documenting abatement projects conducted by qualified contractors The projects would encompass asbestos removal, repair, encapsulation, enclosure or an emergency response or scheduled maintenance procedure

This document, particularly the O&M plan, requires continual updating and record keeping by a qualified designated person of all activities related to asbestos-containing material and a current evaluation of their present and future exposure potentials Material condition and potential for damage could change significantly with time The owner is required to periodically reinspect the asbestos-containing materials or presumed asbestos-containing materials found in this building due to the potential changes in material condition The qualified designated person should also ensure that all information is in accordance with current asbestos regulations Regulations found in OSHA, EPA and the State of Colorado publications shall take precedence over this document at all times

METHODOLOGY

Building 334 was inspected for suspect asbestos-containing materials which included surfacing materials, thermal system insulation and miscellaneous materials. Each material was identified by space number, quantified and then assessed for condition. Bulk material samples were collected of each suspect material utilizing AHERA and OSHA sampling protocols. Homogeneous determinations were made for asbestos-containing thermal system insulation which extended into more than one building space. All other materials (surfacing and miscellaneous) were described for each building space which eliminated the need to identify homogeneous spaces. The advantage of this strategy was to allow the users of this report immediate information regarding the asbestos-containing materials in any given space and not have to rely on a group of functional spaces which would define a homogeneous area.

Bulk material samples of suspect asbestos-containing materials were analyzed by polarized light microscopy (PLM) analysis with dispersion staining (DS) using EPA Method 600 IR-93/116 which is the present analytical method recommended by EPA. Analysis was performed by International Asbestos Testing Laboratory (IATL) located at 16000 Horizon Way, Unit 100 in Mount Laurel, New Jersey. IATL is accredited or approved by the National Institute of Science and Technology-National Voluntary Laboratory Accreditation Program (NIST-NVLAP), American Industrial Hygiene Association (AIHA) and Proficiency Analytical Testing (PAT) program. Laboratory analysis and qualifications for IATL are presented in Appendix F.

The O&M plan was developed using a combination of OSHA regulations and industry standards which are published in a variety of EPA documents. Recommended response actions were determined according to asbestos material condition, whether it was friable and its potential for present and future release of asbestos fibers. The adopted rating system was based on a subjective evaluation which included "low", "moderate" and "high" priority. Low would indicate a priority of concern less than moderate or high. Moderate would indicate a priority of concern higher than low and less than high and so on for high. Some ratings were also presented as a combination of low, moderate and high such as low to moderate or moderate to high.

ASBESTOS INSPECTION

The findings of the asbestos inspection and assessment determinations for at Building 334 are documented on the Space Inventory and Recommended Response Action form, the Bulk Sample Results and Photographic Log form and the Present and Future Exposure Potential forms.

Space Inventory and Recommended Response Action Form

The Space Inventory and Recommended Response Action form includes the space number, asbestos material, material classification, approximate quantity, material condition and recommended response action. The **space number** indicates the area which was inspected for suspect asbestos-containing materials. **Asbestos materials** refer to the confirmed asbestos-containing materials which were in the inspected space. **Material classification** describes whether the asbestos material

ASBESTOS INSPECTION (CONT.)

Space Inventory and Recommended Response Action Form (Cont.)

was friable, Category I nonfriable or Category II nonfriable which are defined in Section II of this report. The **approximate quantity** indicates the amount of the particular asbestos material present in a space. **Present condition** indicates the present condition of the asbestos material and the type and amount of damage, if any. The **recommended response action** was based on material classification and present condition. The recommended response action was chosen to minimize fiber exposure to the environment.

Bulk Sample Results and Photographic Log Form

The Bulk Sample Results and Photographic Log form is composed of the space number, description of area, sample number, material sampled, photograph number and results. The **space number** is the same as previously mentioned. The **description of area** provides recognizable names which indicate the activity or function of the space. The **sample number** consists of the building number followed by standard counting numbers to indicate a unique sample number. **Material sampled** refers to the actual sampled material in a particular space. The **photograph number** indicates the photographs taken of bulk material samples and details of building spaces. **Results** are the laboratory analysis of the collected bulk material samples.

Present and Future Exposure Potential Form

The Present and Future Exposure Potential form consists of headings stating space number, asbestos material, friable, present condition, damage potential and exposure potential. Exposure potential is subdivided into headings of present (no response action), future (response action completed), and future (response action not completed). The **space number**, **asbestos material** and **present condition** were previously defined. **Friable** warrants a yes or no response based on whether the material is friable or nonfriable. **Damage potential** is indicated as low, moderate or high priority which is based on damage from physical contact, material location and deterioration factors such as air movement, vibration and water damage. The **exposure potential** also indicated as low, moderate or high is based on the asbestos material, whether it is friable, the present condition and the damage potential. Exposure potential is further defined as **present** with no response action being performed and **future** with and without the recommended response action being completed.

Inspection Findings

The completed Space Inventory and Recommended Response Action form, Bulk Sample Results and Photographic Log form and Present and Future Exposure Potential form for Building 334 are as follows. Also presented are building drawings which indicate space numbers, asbestos materials present and photograph numbers. The photographs which are referred to in the Space Inventory and Recommended Response Action form, the Bulk Sample Results and Photographic Log form and the drawings are presented following the drawings.

BUILDING 334

Space Inventory and Recommended Response Action

SPACE INVENTORY AND RECOMMENDED RESPONSE ACTION

Building No 334
Location Rocky Flats

Page No 1
Date April 22, 1996

Sylvester B. Douglas

Sylvester Douglas
Signature

Management Planner/Inspector's Name

Management Planner/Inspector ID

Space No.	Asbestos Material	Material Classification	Approximate Quantity	Material Condition	Recommended Response Action
100	Floor Tile/Mastic	Category I, nonfriable	600 square feet	No Damage	Operations and Maintenance
101, 102, 103, 108	Piping	Friable	1,800 linear feet	15 linear feet/Damage	Repair/Operations and Maintenance
104	Piping	Friable	20 linear feet	No Damage	Operations and Maintenance
105	Floor Tile	Category I, nonfriable	250 square feet	No Damage	Operations and Maintenance
105B, D, G, H, J, K	Floor Tile/Mastic	Category I, nonfriable	1,150 square feet	No Damage	Operations and Maintenance
105G	Piping	Friable	4 linear feet	No Damage	Operations and Maintenance
105G	Floor Tile/Mastic	Category I, nonfriable	32 square feet	No Damage	Operations and Maintenance
106	Transite	Category II, nonfriable	500 square feet	No Damage	Operations and Maintenance
106	Piping	Friable	20 linear feet	<2 linear feet/Damage	Repair/Operations and Maintenance

SPACE INVENTORY AND RECOMMENDED RESPONSE ACTION

Building No 334 (Cont)
Location Rocky Flats

Page No 2
Date April 22, 1996

Sylvester B. Douglas

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Management Planner/Inspector's Name

Signature

Management Planner/Inspector ID

Space No.	Asbestos Material	Material Classification	Approximate Quantity	Material Condition	Recommended Response Action
107/107A	Piping	Friable	20 linear feet	<1 linear feet/Damage	Repair/Operations and Maintenance
107/107A	Pipe elbow/fitings	Friable	15	2/Damage	Repair/Operations and Maintenance
109	Piping	Friable	25 linear feet	No Damage	Operations and Maintenance
111B	Piping	Friable	25 linear feet	No Damage	Operations and Maintenance
111B	Transite Wall	Category II, nonfriable	350 square feet	No Damage	Operations and Maintenance
113	Transite Wall	Category II, nonfriable	500 square feet	No Damage	Operations and Maintenance
114	Transite Wall	Category II, nonfriable	1,300 square feet	No Damage	Operations and Maintenance
115	Piping	Friable	150 linear feet	3 linear feet/Damage	Repair/Operations and Maintenance
115	Counter/desk Tops	Category II, nonfriable	100 square feet	No Damage	Operations and Maintenance

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SPACE INVENTORY AND RECOMMENDED RESPONSE ACTION

Building No 334 (Cont)
Location Rocky Flats

Page No 3
Date April 22, 1996

Sylvester B. Douglas

Management Planner/Inspector's Name

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Signature

Management Planner/Inspector ID

Space No.	Asbestos Material	Material Classification	Approximate Quantity	Material Condition	Recommended Response Action
115 (Cont)	Floor Tile	Category I, nonfriable	1,200 square feet	No Damage	Operations and Maintenance
115A	Floor Tile	Category I, nonfriable	150 square feet	No Damage	Operations and Maintenance
117/117A	Floor Tile (9-inch)	Category I, nonfriable	600 square feet	No Damage	Operations and Maintenance
121A	Floor Tile	Category I, nonfriable	20 square feet	<1 square feet	Remove/Operations and Maintenance
122-138A	Floor Tile/Mastic	Category I, nonfriable	4,000 square feet	No Damage	Operations and Maintenance
122	Pipe elbow/fitings (above ceiling)	Friable	4	No Damage	Operations and Maintenance
201	Piping	Friable	25 linear feet	2/Damage, 2/ Significant Damage	Repair/Operations and Maintenance
201	Transite Wall	Category II, nonfriable	1,100 square feet	No Damage	Operations and Maintenance

SPACE INVENTORY AND RECOMMENDED RESPONSE ACTION

Building No 334 (Cont)
Location Rocky Flats

Page No 4
Date April 22, 1996

Sylvester B. Douglas

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Management Planner/Inspector's Name

Signature

Management Planner/Inspector ID

Space No.	Asbestos Material	Material Classification	Approximate Quantity	Material Condition	Recommended Response Action
202/203	Floor Tile (beige)	Category I, nonfriable	275 square feet	No Damage	Operations and Maintenance
202/203	Transite Wall	Category II, nonfriable	300 square feet	No Damage	Operations and Maintenance
204	Floor Tile	Category I, nonfriable	325 square feet	No Damage	Operations and Maintenance
204A	Transite Wall	Category II, nonfriable	50 square feet	No Damage	Operations and Maintenance
204B	Vibration Isolator	Friable	5 square feet	No Damage	Operations and Maintenance
204B	Transite Wall	Category II, nonfriable	500 square feet	No Damage	Operations and Maintenance
206	Piping	Friable	30 linear feet	<1 linear feet/Damage	Repair/Operations and Maintenance
206	Transite Wall, stairwell	Category II, nonfriable	40 square feet	No Damage	Operations and Maintenance
209	Piping	Friable	120 linear feet	3 linear feet/Damage	Repair/Operations and Maintenance

SPACE INVENTORY AND RECOMMENDED RESPONSE ACTION

Building No 334 (Cont)
Location Rocky Flats

Page No 5
Date April 22, 1996

Sylvester B. Douglas

SD

Management Planner/Inspector's Name

Signature

Management Planner/Inspector ID

Space No.	Asbestos Material	Material Classification	Approximate Quantity	Material Condition	Recommended Response Action
209 (Cont)	Transite Wall	Category II, nonfriable	150 square feet	No Damage	Operations and Maintenance
209	Wall Material	Category II, nonfriable	unknown, must confirm	No Damage	Operations and Maintenance
209A-C	Floor Tile	Category I, nonfriable	270 square feet	No Damage	Operations and Maintenance
209D	Piping	Friable	15 linear feet	No Damage	Operations and Maintenance
209E	Floor Tile (green)	Category I, nonfriable	100 square feet	No Damage	Operations and Maintenance
209E	Transite Wall	Category II, nonfriable	10 square feet	No Damage	Operations and Maintenance
209N	Floor Tile	Category I, nonfriable	100 square feet	No Damage	Operations and Maintenance
209N1	Transite Wall	Category II, nonfriable	100 square feet	No Damage	Operations and Maintenance

PRESENT AND FUTURE EXPOSURE POTENTIAL

Building No 334
Location Rocky Flats

Page 1
Date April 22, 1996

Sylvester B. Douglas
Management Planner/Inspector's Name
Sylvester Douglas
Signature

Management Planner/Inspector ID

Space No.	Adhesives Material	Exposure Potential	Present Condition	Damage Potential	EXPOSURE POTENTIAL		
					Present	Future	Response Action
100	Floor Tile/Mastic	No	No Damage	Low	Low	Low	Low
101, 102, 103, 108	Piping	Yes	15 linear feet/Damage	Low to Moderate	Low to Moderate	Low	Moderate
104	Piping	Yes	No Damage	Low	Low	Low	Low to Moderate
105	Floor Tile	No	No Damage	Low	Low	Low	Low
105B, D, G, H, J, K	Floor Tile/Mastic	No	No Damage	Low	Low	Low	Low
105G	Piping	Yes	No Damage	Low	Low	Low	Low to Moderate
105G	Floor Tile/Mastic	No	No Damage	Low	Low	Low	Low
106	Cementitious Walls	No	No Damage	Low	Low	Low	Low

PRESENT AND FUTURE EXPOSURE POTENTIAL

Building No 334 (Cont)
Location Rocky Flats

Page 2
Date April 22, 1996

Sylvester B. Douglas

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Management Planner/Inspector's Name

Signature

Management Planner/Inspector ID

Space No.	Asbestos Material	Removable	Present Condition	Damage Potential	EXPOSURE POTENTIAL			
					Present		Future	
					No Response Action	Response Action Completed	No Response Action	Response Action Completed
106 (Cont)	Piping	Yes	<2 linear feet/Damage	Low to Moderate	Low to Moderate	Low	Moderate	Moderate
107/107A	Piping	Yes	1 linear foot/Damage	Moderate	Low to Moderate	Low	Moderate	Moderate
107/107A	Pipe elbow/fittings	Yes	2/Damage	Moderate	Low to Moderate	Low	Moderate	Moderate
109	Piping	Yes	No Damage	Moderate	Low to Moderate	Low	Low to Moderate	Moderate
111B	Piping	Yes	No Damage	Low to Moderate	Low	Low	Low to Moderate	Moderate
111B	Cementitious Wall	No	No Damage	Low	Low	Low	Low	Low
113	Cementitious Wall	No	No Damage	Low	Low	Low	Low	Low

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PRESENT AND FUTURE EXPOSURE POTENTIAL

Building No 334 (Cont)
Location Rocky Flats

Page 3
Date April 22, 1996

Sylvester B. Douglas

SA

Management Planner/Inspector's Name

Signature

Management Planner/Inspector ID

Space No.	Asbestos Material	Remediable	Present Condition	Damage Potential	EXPOSURE POTENTIAL			
					Present	No Response Action	Response Action Completed	Future
114	Cementitious Wall	No	No Damage	Low	Low	Low	Low	Low
115	Piping	Yes	3 linear feet/Damage	Low to Moderate	Low to Moderate	Low	Low	Moderate
115	Counter/Desk Tops	No	No Damage	Low	Low	Low	Low	Low
115	Floor Tile	No	No Damage	Low to Moderate	Low	Low	Low	Low
115A	Piping	No	No Damage	Low	Low	Low	Low	Low
117/117A	Floor Tile (9-inch)	No	No Damage	Low to Moderate	Low	Low	Low	Low
121A	Floor Tile	No	<1 square foot	Low	Low	Low	Low	Low
122-138A	Floor Tile/Mastic	Yes	No Damage	Low	Low	Low	Low	Low

PRESENT AND FUTURE EXPOSURE POTENTIAL

Building No 334 (Cont)
Location Rocky Flats

Page 4
Date April 22, 1996

Sylvester B. Douglas
Management Planner/Inspector's Name

SD
Signature

Management Planner/Inspector ID

Space No.	Asbestos Material	Removable	Present Condition	Damage Potential	EXPOSURE POTENTIAL		
					Present	Future	
122	Pipe elbow/fittings (above ceiling)	Yes	No Damage	Low	Low	No Response Action	Low
201	Piping	Yes	25 linear feet/Damage	Low	Low to Moderate	Response Action Completed	Moderate
201	Cementitious Wall	No	No Damage	Low	Low	Response Action Completed	Low
202/203	Floor Tile (beige)	No	No Damage	Low	Low	Response Action Completed	Low
202/203	Cementitious Wall	No	No Damage	Low	Low	Response Action Completed	Low
204	Floor Tile	No	No Damage	Low	Low	Response Action Completed	Low
204A	Cementitious Wall	No	No Damage	Low	Low	Response Action Completed	Low
204B	Vibration Isolator	No	No Damage	Low	Low	Response Action Completed	Low to Moderate

PRESENT AND FUTURE EXPOSURE POTENTIAL

Building No 334 (Cont)
Location Rocky Flats

Page 5
Date April 22, 1996

Sylvester B. Douglas
Management Planner/Inspector's Name

SD
Signature

[REDACTED]
Management Planner/Inspector ID

Space No.	Asbestos Material	Friable	Present Condition	Damage Potential	No Response Action	EXPOSURE POTENTIAL	
						Present	Future
204B (Cont)	Cementitious Wall	No	No Damage	Low	Low	Response Action Completed Low	Response Action Not Completed Low
206	Piping	Yes	30 linear feet/Damage	Low to Moderate	Low to Moderate	Low	Moderate
206	Transite Wall, Stairwell	No	No Damage	Low	Low	Low	Low
209	Piping	Yes	3 linear feet/Damage	Low to Moderate	Low to Moderate	Low	Moderate
209	Cementitious Wall	No	No Damage	Low	Low	Low	Low
209	Wall Material	No	No Damage	Low	Low	Low	Low

PRESENT AND FUTURE EXPOSURE POTENTIAL

Building No 334 (Cont)
Location Rocky Flats

Page 6
Date April 22, 1996

Sylvester B. Douglas

SD

Management Planner/Inspector's Name

Signature

[Redacted] Management Planner/Inspector ID

Space No.	Asbestos Material	Removable	Present Condition	Damage Potential	EXPOSURE POTENTIAL		
					Present	Future	
209A-C	Floor Tile	No	No Damage	Low	No Response Action	Response Action Completed	Response Action Not Completed
209D	Piping	Yes	No Damage	Low	Low	Low	Low to Moderate
209E	Floor Tile (green)	No	No Damage	Low	Low	Low	Low
	Transite Wall	No	10 square feet	Low	Low	Low	Low
209N	Floor Tile	No	No Damage	Low	Low	Low	Low
209N1	Cementitious Wall	No	No Damage	Low	Low	Low	Low
Ext Bldg	Cementitious Wall	No	No Damage	Low	Low	Low	Low

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PRESENT AND FUTURE EXPOSURE POTENTIAL

Building No 334
Location Rocky Flats

Date January 6, 1997

Sylvester B. Douglas
Management Planner/Inspector's Name

Sylvester Douglas
Signature


Management Planner/Inspector ID

EXPOSURE POTENTIAL		Damage Potential		Response Action	
Space No.	Asbestos Material	Present Condition	Damage Potential	Response Action	Response Action
Roof	Roof Flashing	No	Low to Moderate	Low	Low
West Central Roof	Nonskid Pad	No	Low to Moderate	Low	Low

SPACE INVENTORY AND RECOMMENDED RESPONSE ACTION

Building No 334 Roof
Location Rocky Flats

Page No 1
Date January 6, 1997

Sylvester B. Douglas
Planner/Inspector's Name

Sylvester Douglas
Signature

Management Planner/Inspector ID

Space No	Asbestos Material	Material Classification	Approximate Quantity	Material Condition	Recommended Response Action
N/A	Roof Flashing	Nonfriable, I	844 square feet	No Damage	Operations and Maintenance
N/A	Nonskid Pads (West Central Roor)	Nonfriable, I	20 square feet	No Damage	Operations and Maintenance

CERTIFICATE OF ANALYSIS**Client:** Sitex Environmental, Inc

11905 Borman Drive

St Louis

MO

63146

Report Date: 07/31/1996**Project:** DOE RockyFlats, 108230, 7-17-96**Project No.:** 108230**BULK SAMPLE ANALYSIS SUMMARY**

Lab No.	501618	Material Description	Black	
Client No.	331-206	Location	Roof Material	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	2	Fibrous Glass	98

Lab No.	501619	Material Description	Black	
Client No.	334-200	Location	Roof Material	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	1	Fibrous Glass	84
		15	Cellulose	

Lab No.	501620	Material Description	Black/Brown/Silver	
Client No.	334-201	Location	Tar/Roof Material	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
20	Chrysotile	5	Cellulose	75
		Trace	Fibrous Glass	

Lab No.	501621	Material Description	Black	
Client No.	334-202	Location	Roof Material	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

NIST-NVLAP No. 1165**NY-DOH No. 11021****AIHA Lab No. 444**

Analysis Method EPA 600/R-93/116

Comments (PC) Indicates Stratified Point Count Method performed Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non friable organically bound materials Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By:

N. Sonny Robb

Date:

JUL 25 1996 Sonny Robb, AIHA-AAR 4883

Approved:

*Frank E. Ehrenfeld, III*Frank E. Ehrenfeld, III
Laboratory Director

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CERTIFICATE OF ANALYSIS**Client:** Sitex Environmental, Inc

11905 Borman Drive

St. Louis

MO

63146

Report Date: 07/31/1996**Project:** DOE Rocky Flats, 108230, 7-17-96**Project No.:** 108230**BULK SAMPLE ANALYSIS SUMMARY**

Lab No.	501622	Material Description	Black/Brown/Silver
Client No.	334-203	Location	Tar/Roof Material
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
20	Chrysotile	5	Cellulose
		3	Fibrous Glass
			<u>% Non-Fibrous Material</u>
			72

Lab No.	501623	Material Description	Black
Client No.	334-204	Location	Tar/Roof Material
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
PC 2.8	Chrysotile	Trace	Cellulose
			<u>% Non-Fibrous Material</u>
			PC 97.2

Lab No.	501624	Material Description	Black
Client No.	334-205	Location	Roof Material
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
None Detected	None Detected	15	Fibrous Glass
			<u>% Non-Fibrous Material</u>
			85

Lab No.	501625	Material Description	Black/Brown
Client No.	334-206	Location	Roof Material
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>
15	Chrysotile	30	Cellulose
		5	Fibrous Glass
			<u>% Non-Fibrous Material</u>
			50

NIST-NVLAP No. 1165**NY-DOH No. 11021****AIHA Lab No. 444**

Analysis Method EPA 600/R-93/116

Comments (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By

X. Long Robb

Approved By

Frank E. Ehrenfeld, III

Date: JUL 25 1996 Sonny Robb, AIHA-AAR 4883

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

Client: Site\ Environmental, Inc
11905 Borman Drive
St Louis MO 63146

Report Date: 07/31/1996
Project: DOE RockyFlats, 108230, 7-17-96
Project No.: 108230

BULK SAMPLE ANALYSIS SUMMARY

Lab No.	501626	Material Description	Black	
Client No.	334-207	Location	Roof Material	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	5	Fibrous Glass	95

Lab No.	501627	Material Description	Black/Silver	
Client No.	334-208	Location	Roof Material	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
30	Chrysotile	15	Cellulose	50
		5	Fibrous Glass	

Lab No.	501628	Material Description	Black	
Client No.	442-200	Location	Roof Material	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	15	Fibrous Glass	85

Lab No.	501629	Material Description	Black	
Client No.	442-201	Location	Roof Material	
<u>% Asbestos</u>	<u>Type</u>	<u>% Non-Asbestos Fibrous Material</u>	<u>Type</u>	<u>% Non-Fibrous Material</u>
None Detected	None Detected	2	Fibrous Glass	98
		Trace	Cellulose	

NIST-NVLAP No. 1165

NY-DOH No. 11021

AIHA Lab No. 444

Analysis Method EPA 600/R-93/116

Comments (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM.

Analysis Performed By

H. Sonny Robb

Date

H. Sonny Robb AIHA-AAR 4882

Approved By

*Frank E. Ehrenfeld, III*Frank E. Ehrenfeld, III
Laboratory Director

BUILDING 334


Drawings

SPACE INVENTORY AND RECOMMENDED RESPONSE ACTION

Building No 334 (Cont)
Location Rocky Flats

Page No 6
Date April 22, 1996

Sylvester B. Douglas
Management Planner/Inspector's Name
Signature


Management Planner/Inspector ID

Space No.	Asbestos Material	Material Classification	Approximate Quantity	Material Condition	Recommended Response Action
Ext Bldg	Transite Wall	Category II, nonfriable	3,000 square feet	No Damage	Operations and Maintenance

Asbestos-containing building materials were not found in Spaces 103A, 105A, 109A, 109B, 110, 111, 111A, 112, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155 and 201A

BUILDING 334

Bulk Sample Results and Photographig Log

BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No 334

Location Rocky Flats

Page 1
Date April 22, 1996

Space No.	Description of Area	Sample No.	Material Sampled	Photo No.	Results
100	Credit Union	334-083	floor tile beneath carpet	83	1 75% Chrysotile None Detected, tan mastic 4 4% Chrysotile, black mastic
101	Main Floor	334-063	pipe, dcw	63	15% Chrysotile
101	Main Floor	334-064	pipe, dhv	63	15% Amosite, 10% Chrysotile
101	Main Floor	334-065	pipe, steam	65	15% Chrysotile
101	Main Floor		south stairwell, looking up (west)	88	
101	Main Floor		from Column B10 and C10 looking southwest	104	
101	Main Floor		from Column C8 looking south	105	
101	Main Floor		from Column B2 looking west	111	
101	Pipe Shop	334-077	vibration isolator	77	None Detected
101	Pipe Shop	334-078	exhaust hose, black	78	None Detected
101	Pipe Shop		from east wall looking southwest	100	
101	Pipe Shop		from west looking east, pipe/heater	101	
101	Sheet Metal	334-079	exhaust hose, orange	79	None Detected
101	Sheet Metal		from east, looking northwest	102	

BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No 334 (Cont)
Location Rocky Flats

Page 2
Date April 22, 1996

Space No.	Description of Area	Sample No.	Material Sampled	Photo No.	Results
101	Sheet Metal		from Column C11 looking southwest	103	
101	South Wall	334-080	wall covering for outside wall	80	None Detected
101	Machine Shop		from south wall, looking north	108	
101	Carpenter Shop		from 112 door, looking southeast	110	
101	Carpenter Shop		south wall looking north, cementitious wall	112	
101	Carpenter Shop	334-073	cementitious walls	73	30% Chrysotile
105	Hallway	334-030	floor tile beneath carpet	30	1 3% Chrysotile, tile None Detected, tan mastic
105A	Women's Rest Room	334-031	12 x 12 floor tile, white	31	None Detected, tile None Detected, tan mastic
105B	Office	334-032	elbow, condensate steam	32	None Detected
105B	Office	334-033	floor tile beneath carpet	33	1 3% Chrysotile, tile None Detected, tan mastic 7 8% Chrysotile, black mastic
105B	Office	334-034	straw wall	34	None Detected
105E	Janitor Closet	334-035	pipe, domestic hot	35	15% Amosite, 10% Chrysotile

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BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No 334 (Cont)
Location Rocky Flats

Page 3
Date April 22, 1996

Space No.	Description of Area	Sample No.	Material Sampled	Photo No.	Results
105E	Janitor Closet	334-036	12 x 12 floor tile, white	36	1 8% Chrysotile, tile 10% Chrysotile, black mastic
106	Tool Crib	334-076	paint, fire retardant	76	None Detected
107A	Men's Rest Room	334-044	pipe, dhv	44	15% Amosite
107A	Men's Rest room	334-045	pipe hanger, dcw	45	None Detected
107A	Men's Rest Room		southeast entrance, looking SW	85	
107A	Men's Rest Room		south wall, looking north	86	
107A	Men's Rest Room		looking northeast	87	
109	Men's Locker Room	334-039	pipe, steam	39	10% Amosite, 5% Chrysotile
109	Men's Locker Room	334-040	vibration isolator	39	35% Chrysotile
109	Men's Locker Room	334-041	skid pad	41	None Detected None Detected, tan mastic
109	Men's Locker Room	334-042	wall	42	None Detected
109	Men's Locker room	334-043	wall	43	None Detected
111A	Office	334-071	12 x 12 floor tile, beige	71	Trace Chrysotile
111A	Office	334-072	decorative wall	72	None Detected

BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No 334 (Cont)
Location Rocky Flats

Page 4
Date April 22, 1996

Space No.	Description of Area	Sample No.	Material Sampled	Photo No.	Results
111B	Lunch Room		from door, looking southwest	109	
112	Office	334-069	12 x 12 floor tile, beige	69	None Detected, tile None Detected, tan mastic
115	Electrical Shop	334-066	9 x 9 floor tile, beige	66	1 5% Chrysotile, tile None Detected, black mastic
115	Electrical Shop	334-067	12 x 12 floor tile, beige	67	15% Chrysotile, tile None Detected, tan mastic
115	Electrical Shop	334-068	cementitious counter/desk top	68	30% Chrysotile
115	Electrical Shop		from north looking south	106	
115	Electrical Shop		from south looking north	107	
117	Office	334-070	12 x 12 floor tile	70	<1% Chrysotile, tile None Detected, gray/blk mastic
121A	Data Room	334-029	12 x 12 floor tile, white	29	1 5% Chrysotile, tile None Detected, black mastic
122	Hallway	334-014	floor tile beneath carpet	14	1 8% Chrysotile, tile None Detected, tan mastic 6 3% Chrysotile, black mastic
122	Hallway	334-015	pipe elbow, steam	15	5 3% Chrysotile, 4 5% Amosite

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BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No 334 (Cont)
Location Rocky Flats

Page 5
Date April 22, 1996

Space No.	Description of Area	Sample No.	Material Sampled	Photo No.	Results
122A	Entrance	334-013	12 x 12 floor tile, beige	13	2 0% Chrysotile, tile 5 8% Chrysotile, black mastic
127	Office	334-018	floor tile beneath carpet	18	1 5% Chrysotile, tile None Detected, tan mastic 7 0% Chrysotile, black mastic
128	Hallway	334-023	straw wall	23	None Detected
130	Office	334-020	floor tile beneath carpet	20	1 3% Chrysotile, tile None Detected, tan mastic 6 8% Chrysotile, black mastic
130	Office	334-021	straw wall	21	None Detected
130	Office	334-022	2 x 4 ceiling tile	22	Trace Chrysotile
133	Office	334-026	floor tile beneath carpet	26	1 3% Chrysotile, tile None Detected, tan mastic 8 3% Chrysotile, black mastic
134	Office	334-001	2 x 4 ceiling tile	1	None Detected
134	Office	334-002	duct seam material	2	None Detected
134	Office	334-003	wall	3	None Detected

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BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No 334 (Cont)
Location Rocky Flats

Page 6
Date April 22, 1996

Space No.	Description of Area	Sample No.	Material Sampled	Photo No.	Results
134	Office	334-004	floor tile beneath carpet	4	1 3% Chrysotile, tile None Detected, tan mastic None Detected, black mastic
135	Office	334-005	floor tile beneath carpet	5	1 5% Chrysotile, tile None Detected, tan mastic 7 5% black mastic
135	Office	334-006	wall	6	None Detected (wall None Detected (joint Compound)
136	Mechanical Room	334-027	valve insulation	27	None Detected
136	Mechanical Room	334-028	cloth vibration isolator	28	None Detected
136	Mechanical Room		fiber glass piping	83	
136	Mechanical Room		air duct	84	
137	Office	334-011	floor tile beneath carpet	11	None Detected
201	Mechanical/Electrical	334-060	cementitious walls/partitions	60	30% Chrysotile
201	Mechanical/Electrical	334-061	cloth covering	61	None Detected
201	Mechanical/Electrical	334-062	exhaust hose	62	None Detected
201	Mechanical Area		looking north, pipe	97	

BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No 334 (Cont)
Location Rocky Flats

Page 7
Date April 22, 1996

Space No.	Description of Area	Sample No.	Material Sampled	Photo No.	Remarks
201	Mechanical Area		exhaust hoses and cementitious wall	98	
202	Storage	334-058	12 x 12 floor tile, beige	58	15% Chrysotile
202	Storage	334-059	12 x 12 floor tile, beige collage	59	None Detected, tile None Detected, tan mastic
204	Storage	334-048	9 x 9 floor tile, beige	48	15% Chrysotile, tile None Detected, black mastic
204	Storage	334-049	wall	49	None Detected
204A	Mechanical Room		looking north from 204B entrance	94	
204B	Outside 202		looking southwest, cementitious	96	
204B	Mechanical/Storage	334-053	vibration isolator	53	35% Chrysotile
204B	Mechanical/Storage	334-054	cementitious wall		30% Chrysotile
204B	Mechanical/Storage Room		from 204A looking southeast	95	
206	Storage	334-074	12 x 12 floor tile, beige	74	None Detected, tile None Detected, mastic
206	Storage	334-075	cementitious walls, stairway	75	25% Chrysotile

BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No 334 (Cont)
Location Rocky Flats

Page 8
Date April 22, 1996

Space No.	Description of Area	Sample No.	Material Sampled	Photo No.	Results
209	Storage	334-046	floor tile beneath carpet	46	2 3% Chrysotile, tile None Detected, tan mastic None Detected, black mastic
209	Storage	334-047	wall	47	25% Chrysotile
209	Storage		south wall, looking west	90	
209	Storage		northwest corner, looking south	91	
209	Storage		door entrance, looking south	92	
209	Storage		looking east, cementitious wall	93	
209E	Hallway	334-055	12 x 12 floor tile, green	55	3 8% Chrysotile, tile None Detected, tan mastic
209E	Hallway	334-056	12 x 12 floor tile, beige	56	None Detected, tile None Detected, tan mastic
209 N1	Storage	334-057	12 x 12 floor tile, beige	57	None Detected, tile None Detected, mastic
212	Hallway	334-051	cementitious, upper wall	51	25% Chrysotile
212	Hallway	334-052	cementitious, lower wall	52	25% Chrysotile

BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No 334 (Cont)
Location Rocky Flats

Page 9
Date April 22, 1996

Space No.	Description of Area	Sample No	Material Sampled	Photo No.	Results
212	Hallway	334-050	peg wall	50	None Detected
212	Hallway		from north looking south, cementitious	99	
NA	Exterior Building	334-081	cementitious wall	81	25% Chrysotile
NA	Exterior Building	334-082	cementitious wall	82	25% Chrysotile
NA	Exterior Building	334-101	exterior finish, southeast corner		None Detected
NA	Exterior Building	334-102	exterior finish, southwest corner		None Detected
NA	Exterior Building	334-103	exterior finish, north side		None Detected
NA	Mezzanine Floor		from stairwell, looking south behind wall	89	
NA	Outside Building Looking Northwest			113	
NA	Outside Building Looking Northeast			114	
NA	Outside Building Looking Northwest			115	
NA	Outside Building Looking Southwest			116	

BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No 334 (Cont)
Location Rocky Flats

Page 10
Date April 22, 1996

Space No.	Description of Area	Sample No.	Material Sampled	Photo No.	Results
116	Outside Building Oil Storage Looking Southwest			117	
NA	Outside Building Looking Southwest			118	

Asbestos inspection, assessment and sampling have been conducted by an EPA and state of Colorado accredited inspector in accordance with 40 CFR 763, who has completed an approved course under the Asbestos Hazard Emergency Response Act (AHERA)

Inspector's Certification No. [REDACTED] Sylvester B. Douglas
Name Signature of Inspector *Sylvester B. Douglas*

BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No 334 (Cont)
Location Rocky Flats

Page 9
Date April 22, 1996

Space No.	Description of Area	Sample No.	Material Sampled	Photo No. (if any)	Results
212	Hallway	334-050	peg wall	50	None Detected
212	Hallway		from north looking south cementitious	51	
NA	Exterior Building	334-081	cementitious wall	81	25% Chrysotile
NA	Exterior Building	334-082	cementitious wall	82	25% Chrysotile
NA	Exterior Building	334-101	exterior finish, southeast corner		None Detected
NA	Exterior Building	334-102	exterior finish, southwest corner		None Detected
NA	Exterior Building	334-103	exterior finish, north side		None Detected
NA	Mezzanine Floor		from stairwell, looking south around wall	89	

Asbestos inspection, assessment and sampling have been conducted by an EPA and state of Colorado accredited inspector in accordance with 40 CFR 763, who has completed an approved course under the Asbestos Hazard Emergency Response Act (AHERA)

Inspector's Certification No. _____

Sylvester B. Douglas
Name

Sylvester Douglas
Signature of Inspector


BULK SAMPLE RESULTS AND PHOTOGRAPHIC LOG

Building No 334
Location Rocky Flats

Date January 6, 1997

Space No.	Description of Area	Sample No.	Material Sampled	Photo No.	Results
Exterior	East Roof	334-200	roof		None Detected
	East Roof	334-201	roof flashing		20% Chrysotile
	Southwest Roof	334-202	roof		None Detected
	Southwest Roof	334-203	roof flashing		20% Chrysotile
	West Central Roof	334-204	nonskid pad on roof		2 8% Chrysotile
	Northwest Roof	334-205	roof		None Detected
	Northwest Roof	334-206	roof flashing		15% Chrysotile
	Far West Roof	334-207	roof		None Detected
	Far West Room	334-208	roof flashing		30% Chrysotile

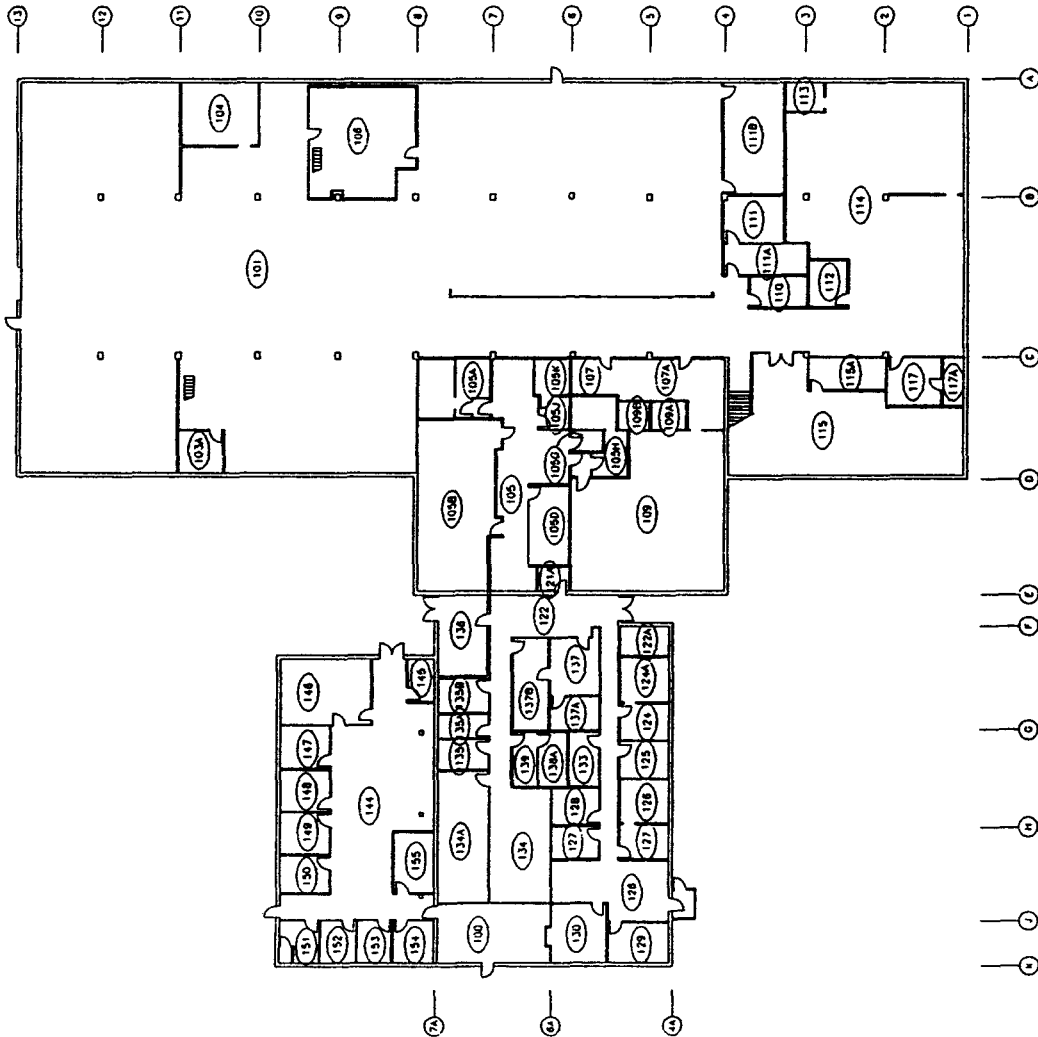
Asbestos inspection, assessment and sampling have been conducted by an EPA and state of Colorado accredited inspector in accordance with 40 CFR 763, who has completed an approved course under the Asbestos Hazard Emergency Response Act (AHERA)

Inspector's Certificate No. [REDACTED] Sylvester B. Douglas
Signature of Inspector 

BUILDING 334

Present and Future Exposure Potential

BUILDING 334



FIRST FLOOR

ASBESTOS NOTES

SPACE	ASBESTOS MATERIAL	EMUL JOL
100	FLOOR TILE/WASTIC (UNDER CARPET)	83
101	PIPE DOMESTIC COLD WATER DOMESTIC HOT WATER STEAM TRANSITE WALLS	83, 65 103-109 111 112
104	PIPE STEAM	
105	FLOOR TILE (UNDER CARPET)	30
105B D G H J K	FLOOR TILE/WASTIC (UNDER CARPET)	33
1060	PIPE DOMESTIC COLD WATER FLOOR TILE/WASTIC	35 36
106	TRANSITE WALLS PIPE DOMESTIC COLD WATER	
107/107A	PIPE DOMESTIC HOT WATER DOMESTIC COLD WATER (ABANDONED) PIPE ELBOWS/FITTINGS	44
109	PIPE STEAM	39
111B	PIPE STEAM TRANSITE PANELS	
113	TRANSITE WALLS/CEILING	
114	TRANSITE WALLS	73
115	PIPE STEAM TRANSITE COUNTERS/DESK TOPS FLOOR TILE (ALL)	68 69 67
115A	FLOOR TILE	
117/117A	FLOOR TILE (1949)	
121A	FLOOR TILE	79
122-138A	FLOOR TILE/WASTIC (UNDER CARPET)	(SEE REP-WT)
122	PIPE ELBOW STEAM (ABOVE CEILING)	14

NOTE ASBESTOS-CONTAINING BUILDING MATERIALS WERE NOT FOUND IN SPACES

103A 109B 111A
105A 110 112
109A 111 144-155

LEGEND

○ SPACE NUMBER
= WALL

ASBESTOS INSPECTION

SITEX
Environmental, Inc.

11400 Riverside Drive
Suite 100, Denver, CO 80231
(303) 556-1118

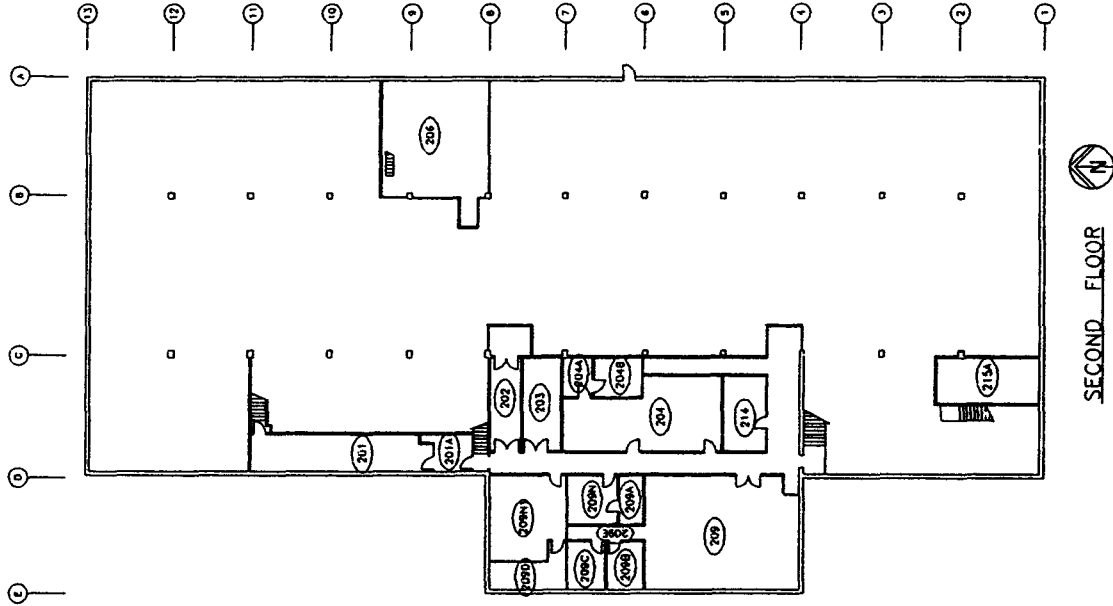
U.S. DEPARTMENT OF ENERGY
ROCKY FLATS FIELD OFFICE
GOLDEN COLORADO 80402

BUILDING 334

ASB-1

DATE 2/13/74
SHEET NO.

BUILDING 334



SECOND FLOOR

ASBESTOS NOTES

SPACE	ASBESTOS MATERIAL	PHOTO NO.
201	PIPE STEAM TRANSITE WALL	90
202/203	FLOOR TILE (BEIGE) TRANSITE WALLS	58
204	FLOOR TILE	48
204A	TRANSITE WALLS	94
204B	VIBRATION ISOLATORS	49 95
206	PIPE DOMESTIC HOT WATER TRANSITE WALLS	81 82
209	PIPE STEAM DOMESTIC COLD WATER FLOOR TILE (UNDER CARPET) TRANSITE WALLS	90-92 48 93 47
209A-C	FLOOR TILE	55
209D	PIPE STEAM FLOOR TILE	
209E	FLOOR TILE (GREEN) TRANSITE WALLS	
209H	FLOOR TILE	
209M1	TRANSITE WALLS	
212	TRANSITE WALLS	51 52
EXTERIOR BLDG	TRANSITE WALLS	81 82

NOTE ASBESTOS-CONTAINING BUILDING MATERIALS WERE NOT FOUND IN SPACES 201A

LEGEND

○ SPACE NUMBER
= WALL

DATE	5/11/94
ASBESTOS	ASB-2

SITEX Environmental, Inc.	
11905 S. Bascom Ave. St. Louis, MO 63146 (314) 566-1116	

U.S. DEPARTMENT OF ENERGY ROCKY FLATS FIELD OFFICE GOLDEN COLORADO 80402	
--	--

FILE DATE	5/11/94
REVISIONS	

BUILDING 334

OBSERVATIONS

Asbestos-containing pipe insulation was relatively consistent for all piping systems with the exception of the domestic cold water pipe insulation in the rest room area (Space 107/107A) of the men's locker room. Two abandoned pipes above the wash basin were sampled and found to contain asbestos. Inspection of insulation beneath metal covering on different domestic cold water lines, however, revealed fiber glass was present. The domestic cold water lines should be presumed asbestos-containing including elbow/fittings/hangers/valves unless additional testing is performed or fiber glass or rubber insulation is present.

The wall sample (Sample 334-049) of Space 209 which was found to contain asbestos must be confirmed. All other wall samples including Space 109 below which did not contain asbestos.

No roofing material samples were collected due to weather conditions which would not have allowed proper repair of the roof without risk of weather damage.

Beryllium Data Summary

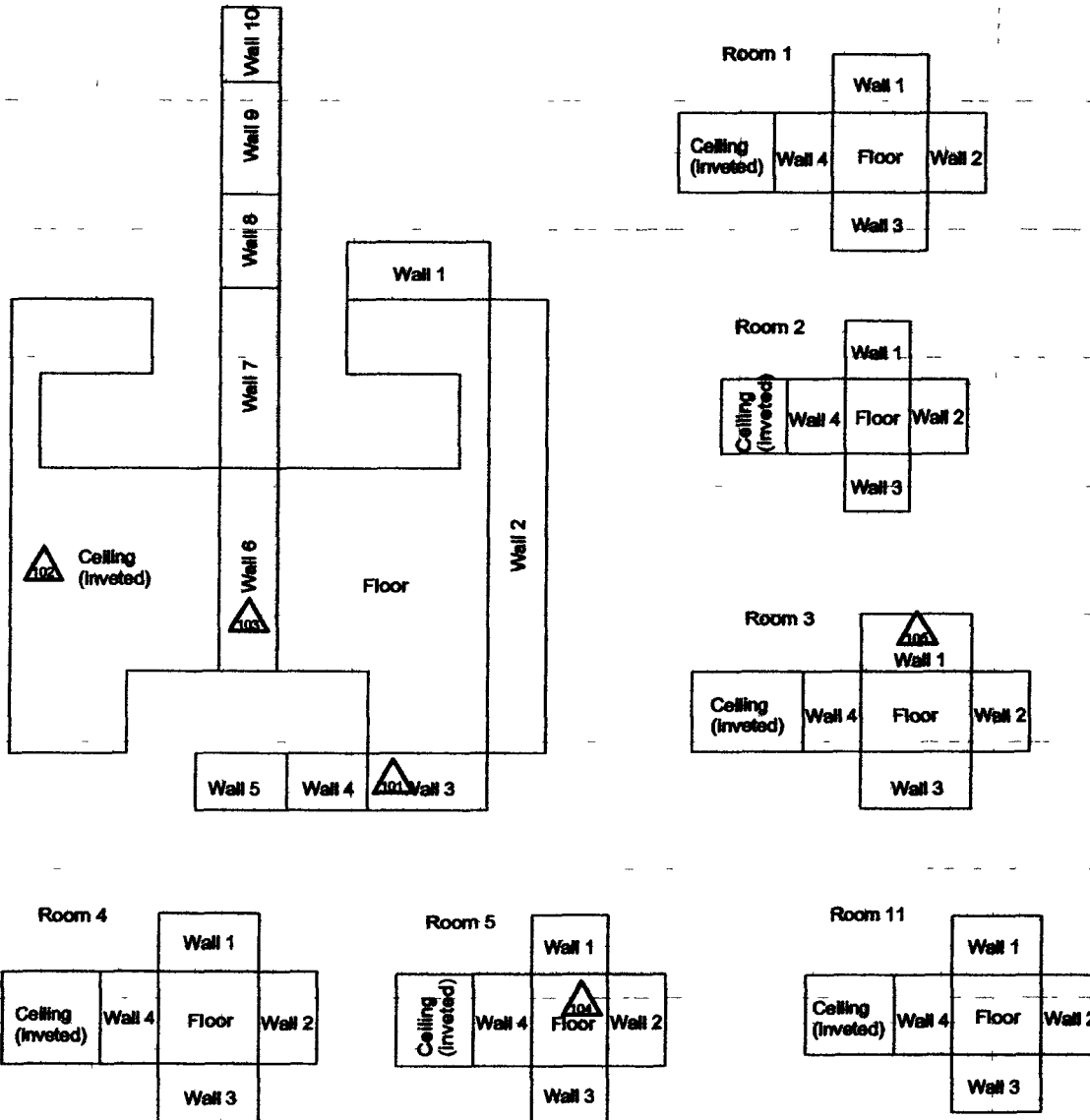
Sample Number	Map Survey Point Location	Room	Sample Location	Result ($\mu\text{g}/100\text{ cm}^2$)
T334B				
T334B-09102202-315-101	101	Main	Top of speaker, south wall	<0.1
T334B-09102202-315-102	102	Main	Top of ceiling tile	<0.1
T334B-09102202-315-103	103	Main	Top of wooden shelf, west wall	<0.1
T334B-09102202-315-104	104	5	Top of wooden shelf	<0.1
T334B-09102202-315-105	105	3	On air louvers north wall	<0.1
T334D				
T334D-09102202-315-106	106	6	On south window sill	<0.1
T334D-09102202-315-107	107	Main	Top of exit light, east door	<0.1
T334D-09102202-315-108	108	Main	Top of metal shelf	<0.1
T334D-09102202-315-109	109	Closet	Top of wall-mounted metal shelf	<0.1
T334D-09102202-315-110	110	1	Top of thermostat, west wall	<0.1
334				
334-09102202-315-111	111	105B	Top of fluorescent light fixture	<0.1
334-09102202-315-112	112	105H	Top of metal shelf	<0.1
334-09102202-315-113	113	109	Bottom of locker 40-A, Men's locker room	<0.1
334-09102202-315-114	114	134A	Top of wooden shelf, west wall	<0.1
334-09102202-315-115	115	128	HVAC diffuser louvers	<0.1
334-09102202-315-116	116	105	Top of silver HVAC duct	<0.1
334-09102202-315-117	117	201	Concrete floor	<0.1
334-09102202-315-118	118	201	Top of work bench	<0.1
334-09102202-315-119	119	201	Louvers on heater	<0.1
334-09102202-315-120	120	209	On floor tile	<0.1
334-09102202-315-121	121	211	Top of steam line, west wall	<0.1
334-09102202-315-122	122	102	Top of work bench	<0.1
334-09102202-315-123	123	102	Top of work bench	<0.1
334-09102202-315-124	124	102	Inside metal storage cabinet	<0.1
334-09102202-315-125	125	108	Window sill east wall	<0.1
334-09102202-315-126	126	108	Concrete floor in front of 111B	<0.1
334-09102202-315-127	127	114	Concrete floor, SE corner	<0.1
334-09102202-315-128	128	114	Top of fire suppression coupling, south wall	<0.1
334-09102202-315-129	129	101	Top of metal book shelf, north wall	<0.1
334-09102202-315-130	130	104	Inside metal storage cabinet on shelf	<0.1
334-09102202-315-131	131	106	Concrete floor at east wall	<0.1

CHEMICAL SAMPLE MAP

T334B Interior

PAGE 1 OF 1

T334B Interior

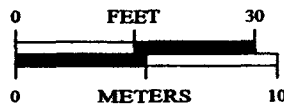


SURVEY MAP LEGEND

- ② Asbestos Sample Location
- ▲ Beryllium Sample Location
- Lead Sample Location
- ◆ RCRA/CERCLA Sample Location
- ⊙ PCB Sample Location

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- Open/Inaccessible Area
- Area in Another Survey Unit



1 inch = 24 feet 1 grid sq = 1 sq. m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GHS Dept. 303-686-7767

Prepared for:

DynCorp
THE ART OF TECHNOLOGY

MAP ID 02-0589/T334B-IN-BE

Sept 9, 2002

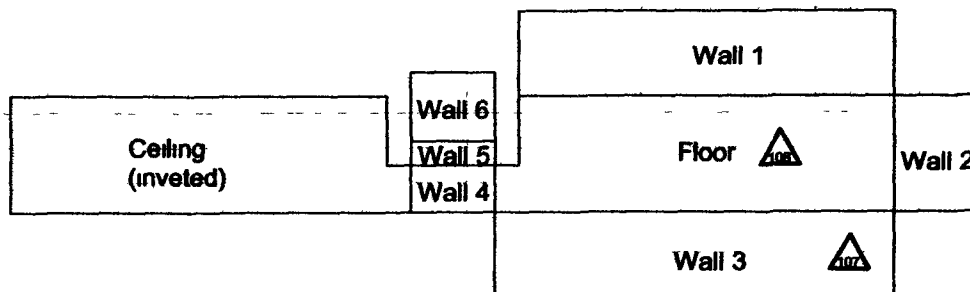
153

CHEMICAL SAMPLE MAP

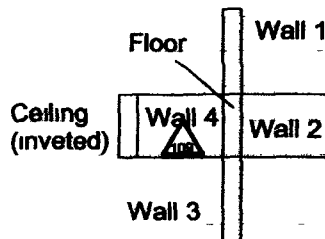
T334D Interior

PAGE 1 OF 1

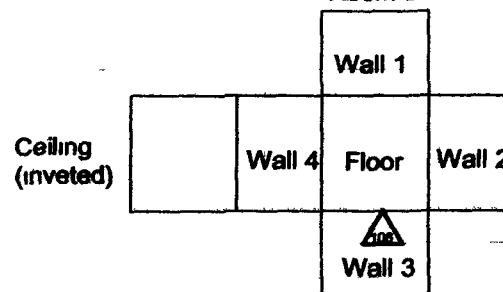
T334D Interior



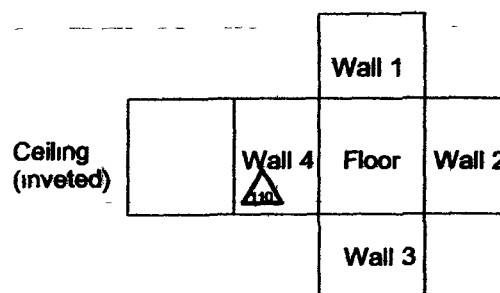
Closet



Room 6



Room 1

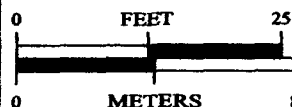


SURVEY MAP LEGEND

- Asbestos Sample Location
- Beryllium Sample Location
- Lead Sample Location
- RCRA/CERCLA Sample Location
- PCB Sample Location

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- Open/Inaccessible Area
- Area in Another Survey Unit



1 inch = 18 feet 1 grid sq. = 1 sq m

U.S. Department of Energy
Rocky Flats Environmental Technology Site

Prepared by: GRS Dept. 383-885-7707

Prepared for:

DynCorp

THE ART OF TECHNOLOGY

MAP ID: 62-8580T334D-IN-BE

Sept 9, 2002

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ATTACHMENT E

Data Quality Assessment (DQA) Detail

DATA QUALITY ASSESSMENT (DQA)

VERIFICATION & VALIDATION OF RESULTS

V&V of the data confirm that appropriate quality controls are implemented throughout the sampling and analysis process, and that any substandard controls result in qualification or rejection of the data in question. The required quality controls and their implementation are summarized in a tabular, checklist format for each category of data – radiological surveys and chemical analyses (specifically asbestos and beryllium).

DQA criteria and results are provided in a tabular format for each suite of surveys or chemical analyses performed; the radiological survey assessment is provided in Table E-1, asbestos in E-2, and beryllium in E-3. A data completeness summary for all results is given in Table E-4.

All relevant Quality records supporting this report are maintained in the RISS Characterization Project Files. This report will be submitted to the CERCLA Administrative Record for permanent storage within 30 days of approval by the Regulators. All radiological data are organized into Survey Packages, which correlate to unique (MARSSIM) Survey Units. Chemical data are organized by RIN (Report Identification Number) and are traceable to the sample number and corresponding sample location.

Beta/gamma survey designs were not implemented for Building 334, T334B and T334D based on the conservatism of the transuranic limits used as DCGLs in the unrestricted release decision process. Survey designs were implemented for 334, T334B and T334D based on the transuranic limits used as DCGLs in the unrestricted release decision process. Elevated activity on exterior Survey Unit sample locations had media samples taken and analyzed by ISOCS Canberra gamma spectroscopy. No transuranic isotope activity was detected, elevated activity was determined to be uranium and/or other naturally occurring isotope activity. Consequently, coupon sample results were evaluated against, and were less than the uranium DCGL_w (5,000 dpm/100cm²) unrestricted release limit. On this basis, elevated transuranic TSA net activity was reported as zero (0) in the TSA exterior data summaries, as applicable.

Consistent with EPA's G-4 DQO process, the radiological survey design (for those survey units performed per PDS requirements) was optimized by checking actual measurement results (acquired during pre-demolition surveys) against model output with original estimates. Use of actual sample/survey (result) variances in the MARSSIM DQO model confirms that an adequate number of surveys were acquired.

SUMMARY

In summary, the data presented in this report have been verified and validated relative to the quality requirements and project decisions as stated in the original DQOs. All data are useable based on qualifications stated herein and are considered satisfactory without qualification. All media surveyed and sampled yielded results less than their associated action levels and with acceptable certainties, except asbestos. Asbestos containing materials (friable and non-friable) identified in B334 will be managed and disposed of in compliance with Environmental Protection Agency (EPA) and Colorado Department of

Public Health and Environment (CDPHE) regulations and therefore, do not impact project decisions (i.e., classification as Type 1 facilities). All beryllium results were less than associated action levels ($0.02 \mu\text{g}/100\text{cm}^2$) also confirming a Type 1 facility classification.

Based upon an independent review of the radiological data, it is determined that the original project DQOs satisfied MARSSIM guidance. All facility contamination levels were below unrestricted release levels confirming Type 1 facility classification. Minimum survey requirements were met, sampling/survey protocol was performed in accordance with applicable RSPs and survey units were properly bounded. The following anomalous conditions were investigated and/or dispositioned as follows:

- Media (paint) samples were analyzed by gamma spectroscopy and results converted to $\text{dpm}/100\text{cm}^2$ using the Media Sample Conversion Calculation Sheet (refer to TSA Data Summary). All results were less than the Uranium DCGL_w ($5000 \text{ dpm}/100\text{cm}^2$) and the Transuranic DCGL_w ($100 \text{ dpm}/100\text{cm}^2$), therefore, no further investigation was required.
- Elevated alpha activity (scan location #9 - $153.5 \text{ dpm}/100\text{cm}^2$) identified during scan surveys in B334 high bay was investigated in accordance with RSP 16.02. Nine TSA and nine LAB measurements were collected. The average Net Sample Activity was calculated to be $73.6 \text{ dpm}/100\text{cm}^2$ which is below the transuranic DCGL_w of $100 \text{ dpm}/100\text{cm}^2$. On this basis, no further investigation is required.

Chain of Custody was intact, documentation was complete, hold times were acceptable (where applicable,) and packaging integrity/custody seals were maintained throughout the sampling/analysis process. Level 2 Isolation Controls have been posted to prevent the inadvertent introduction of contamination into the facilities. On this basis, Buildings 334, T334B and T334D meet the unrestricted release criteria with the confidences stated herein.

Table E-1 V&V of Radiological Surveys

V&V CRITERIA, RADIOLOGICAL SURVEYS		K-H RSP 16 00 Series MARSSIM (NUREG-1575)		COMMENTS
QUALITY REQUIREMENTS		Measure	frequency	
ACCURACY	Parameters			
	initial calibrations	90% < x < 110%	≥ 1	Multi-point calibration through the measurement range encountered in the field, programmatic records
	daily source checks	80% < x < 120%	≥ 1/day	Performed daily/within range
PRECISION	local area background Field	typically < 10 dpm	≥ 1/day	All local area backgrounds were within expected ranges (i.e., no elevated anomalies)
	field duplicate measurements for TSA	≥ 5% of real survey points	≥ 10% of reals	N/A
REPRESENTATIVENESS	MARSSIM methodology (Survey Units 334-A-001, 334-A-002, 334-A-003, 334-A-004, 334-A-005, 334-B-006 and 334-B-007)	statistical and biased	NA	Random w/ statistical confidence
	Survey Maps	NA	NA	Random and biased measurement locations controlled/mapped to ± 1m
	Controlling Documents (Characterization Pkg, RSPs)	qualitative	NA	Refer to the Characterization Package (planning document) for field/sampling procedures (located in Project files), thorough documentation of the planning, sampling/analysis process, and data reduction into formats
COMPARABILITY	units of measure	dpm/100cm ²	NA	Use of standardized engineering units in the reporting of measurement results
COMPLETENESS	Plan vs Actual surveys usable results vs unusable	> 95% > 95%	NA	See Table E-4 for details
SENSITIVITY	detection limits	TSA ≤ 50 dpm/100cm ² RA ≤ 10 dpm/100cm ²	all measures	RLC performed to PDS MDAs ≤ 50% DCGL _w per MARSSIM guidelines

Table E-2 V&V Of Asbestos Results

V&V CRITERIA, CHEMICAL ANALYSES ASBESTOS		DATA PACKAGE		COMMENTS
METHOD. EPA 600/R-93/116		LAB ---->	Reservoirs Environmental, Inc 02Z0908 (B334) 02Z0906 (T334B and T334D)	
QUALITY REQUIREMENT		RIN ---->		
ACCURACY	Calibrations Initial/continuing	Measure below detectable amounts	Frequency ≥1	Semi-quantitative, per (microscopic) visual estimation
PRECISION	Actual Number Sampled LCSD Lab duplicates	all below detectable amounts	≥ 28 samples	Semi-quantitative, per (microscopic) visual estimation
REPRESENTATIVENESS	COC	Qualitative	NA	Chain-of-Custody intact completed paperwork, containers w/ custody seals
	Hold times/preservation	Qualitative	NA	N/A
	Controlling Documents (Plans, Procedures, maps, etc)	Qualitative	NA	See original Chemical Characterization Package (planning document), for field/sampling procedures (located in project file,) thorough documentation of the planning, sampling/analysis process, and data reduction into formats
COMPARABILITY	Measurement Units	% by bulk volume	NA	Use of standardized engineering units in the reporting of measurement results
COMPLETENESS	Plan vs Actual samples Usable results vs unusable	Qualitative	NA	See Table E-4, final number of samples at Certified Inspector's discretion
SENSITIVITY	Detection limits	<1% by volume	all measures	N/A

Table E-3 V&V Of Beryllium Results

V&V CRITERIA, CHEMICAL ANALYSES		DATA PACKAGE	
BERYLLIUM	Prep NMAM 7300 METHOD OSHA ID-125G	LAB -->	Johns Manville, Littleton, Co
QUALITY REQUIREMENTS		RIN -->	02Z0907 (B334) 02Z0905 (T334B and T334D)
ACCURACY		Measure	Frequency
	Calibrations Initial	linear calibration	≥1
	Continuing	80%≤%R<120%	≥1
	LCS/MS	80%≤%R<120%	≥1
	Blanks - lab & field	<MDL	≥1
	interference check std (ICP)	NA	NA
PRECISION		LCS/D	80%≤%R<120% (RPD<20%)
REPRESENTATIVENESS	field duplicate	all results < RL	≥1
	COC	Qualitative	NA
	hold times/preservation	Qualitative	NA
COMPARABILITY		Controlling Documents (Plans, Procedures, maps, etc)	Qualitative
COMPLETENESS	measurement units	ug/100cm ²	NA
	Plan vs Actual samples	>95%	NA
SENSITIVITY	usable results vs unusable	>95%	NA
	detection limits	MDL of 0.012 ug/100cm ²	all measures
		COMMENTS No qualifications significant enough to change project decisions, i.e., classification of Type 1 facility confirmed. All results were below associated action levels	

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Table E-4 Data Completeness Summary

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC) ^A	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc)
Asbestos	B334	18 biased	19 biased	ACM present > 1% by volume (B334 - 2 locations)	40 CFR763 86, 5 CCR 1001-10, EPA 600/R-93/116 RIN02Z0908 Identified two locations in B334 with ACM greater than 1% by volume (sample numbers 109 and 128 were 3% and 2% Chrysotile respectively) and greater than 1% point count [Six locations greater than 1% by volume Chrysotile but point counts were less than or equal to 1% therefore, not considered ACM]
Asbestos	T334B	3 biased	7 biased	All results < 1% by volume	40 CFR763 86, 5 CCR 1001-10, EPA 600/R-93/116 RIN02D0906
Asbestos	T334D	3 biased	2 biased	All results < 1% by volume	40 CFR763 86, 5 CCR 1001-10, EPA 600/R-93/116 RIN02D0906
Beryllium	B334	15 biased	21 biased	No elevated contamination found at any location	OSHA ID-125G - RIN02Z0907 No results above action level (0.2 ug/100cm ²) or investigative level (0.1 ug/100cm ²)
Beryllium	T334B	5 biased	5 biased	No elevated contamination found at any location	OSHA ID-125G - RIN02Z0905 No results above action level (0.2 ug/100cm ²) or investigative level (0.1 ug/100cm ²)
Beryllium	T334D	5 biased	5 biased	No elevated contamination found at any location	OSHA ID-125G - RIN02Z0905 No results above action level (0.2 ug/100cm ²) or investigative level (0.1 ug/100cm ²)

Table E-4 Data Completeness Summary

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC) ^A	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area 3 Survey Unit 334-A-001 T334B (interior and exterior)	17 TSAs (15 random/2 biased) & 17 Smears (15 random/2 biased) 2 QC TSA 5% scan	17 TSAs (15 random/2 biased) & 17 Smears (15 random/2 biased) 2 QC TSA 5% scan	No elevated contamination at any location, all values below PDS unrestricted release levels	Uranium and/or Transuranic DCGLs as applicable Elevated alpha activity was detected at sample locations #6 and #9 (140 3 dpm/100cm ² and 100 6 dpm/100cm ² respectively) that were greater than the Transuranic DCGL _w (100 dpm/100cm ²). One coupon sample was taken from the highest location (#6) and analyzed by gamma spectroscopy. No DOE- Added (americium and plutonium) isotope activity was detected. Results indicated only uranium and other naturally occurring isotopes were present. The sample net activity is below the Uranium DCGL _w (5000 dpm/100cm ²). On this basis, the transuranic values for both locations are reported as zero (0) in the TSA Data Summary. All survey results are less than the applicable DCGL _w , no further investigation is required.
Radiological	Survey Area 3 Survey Unit 334-A-002 T334D (interior and exterior)	17 TSAs (15 random/2 biased) & 17 Smears (15 random/2 biased) 2 QC TSA 5% scan	17 TSAs (15 random/2 biased) & 17 Smears (15 random/2 biased) 2 QC TSA 5% scan	No elevated contamination at any location, all values below PDS unrestricted release levels	Uranium and/or Transuranic DCGL as applicable

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Table E-4 Data Completeness Summary

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC) ^A	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area 3 Survey Unit 334-A-003 B334 (interior - high bay)	60 TSAs (34 random/26 biased) & 60 Smears (34 random/26 biased) 3 QC TSA 10% scan interior	60 TSAs (34 random/26 biased) & 60 Smears (34 random/26 biased) & 50 TSA/50 Smears (equipment) and 30 media samples (15 pre/15 post) 4 QC TSA 10% scan interior	No elevated contamination at any location, all values below PDS unrestricted release levels	Uranium and/or Transuranic DCGL as applicable Elevated alpha activity at pre-media sample location #11 (146 4 dpm/100cm ²) was greater than the DCGL _w (100 dpm/100cm ²). A post-media scan survey at location #11 was less than the transuranic DCGL _w (100 dpm/100cm ²) release limits. The media (paint) samples were analyzed by gamma spectroscopy. No DOE- Added (americium and plutonium) isotope activity was detected. Activity was determined to be uranium and other naturally occurring isotopes. Results were converted to dpm/100cm ² using the Media Sample Conversion Calculation Sheet (refer to TSA Data Summary). The sample net activity for location #11 was below the Uranium DCGL _w (5000 dpm/100cm ²). Additionally, all media results were less than the Uranium DCGL _w (5000 dpm/100cm ²) and the Transuranic DCGL _w (100 dpm/100cm ²). On this basis, the transuranic value for location #11 is reported as zero (0) in the TSA Data Summary. No further investigations are required.
Radiological	Survey Area 3 Survey Unit 334-A-004 B334 (interior - upper offices)	20 TSAs (15 random/5 biased) & 20 Smears (15 random/5 biased) 2 QC TSA 3% scan	20 TSAs (15 random/5 biased) & 20 Smears (15 random/5 biased) 2 QC TSA 3% scan	No elevated contamination at any location, all values below PDS unrestricted release levels	Uranium and/or Transuranic DCGL as applicable
Radiological	Survey Area 3 Survey Unit 334-A-005 B334 - interior (1 st fl offices)	40 TSAs (21 random/19 biased) & 40 Smears (21 random/19 biased) 2 QC TSA 3% scan	40 TSAs (21 random/19 biased) & 40 Smears (21 random/19 biased) 2 QC TSA 3% scan	No elevated contamination at any location, all values below PDS release limits	Uranium and/or Transuranic DCGL as applicable

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Table E-4 Data Completeness Summary

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC) ^A	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc.)
Radiological	Survey Area 3 Survey Unit 334-B-006 B334 (exterior – high bay)	50 TSAs (41 random/9 biased) & 50 Smears (41 random/9 biased) 3 QC TSA 3% scan	50 TSAs (41 random/9 biased) & 50 Smears (41 random/9 biased) 3 QC TSA 3% scan	No elevated contamination at any location, all values below PDS unrestricted release levels	Uranium and/or Transuranic DCGL as applicable <ul style="list-style-type: none"> A window ledge near location #9 indicated elevated alpha activity of 153 5 dpm/100cm² during the scan survey. In accordance with RSP 16 02, nine each TSA and LAB measurements were collected. The average Net Sample Activity was calculated to be 73 6 dpm/100cm² which is below the transuranic DCGL_w of 100 dpm/100cm². No further investigation is required. Concrete near locations 36 and 45 indicated elevated activity up to 166 2 dpm/100cm² during the scan survey. Media samples were collected from these locations and analyzed by gamma spectroscopy. No transuranic isotopes were detected. The activity was determined to be from uranium and other naturally occurring isotopes. All survey results are less than the applicable DCGLs, therefore, no further investigation is required. Results not listed in TSA Data Summary.
Radiological	Survey Area 3 Survey Unit 334-B-007 B334 (exterior – west addition)	20 TSAs (15 random/5 biased) & 20 Smears (15 random/5 biased) 2 QC TSA 3% scan	20 TSAs (15 random/5 biased) & 20 Smears (15 random/5 biased) and 1 investigation sample 2 QC TSA 3% scan	No elevated contamination at any location, all values below PDS unrestricted release levels	Uranium and/or Transuranic DCGL as applicable Elevated alpha activity was detected at sample location #21 (315 1 dpm/100cm ²) that was greater than the Transuranic DCGL _w (100 dpm/100cm ²). One coupon sample was taken and analyzed by gamma spectroscopy. No DOE- Added (americium and plutonium) isotope activity was detected. The elevated activity was determined to be uranium and other naturally occurring isotopes. The resulting sample net activity for this location is below the Uranium DCGL _w (5000 dpm/100cm ²). On this basis, the transuranic values for location #21 is reported as zero (0) in the TSA Data.

Table E-4 Data Completeness Summary

ANALYTE	Building/Area /Unit	Sample Number Planned (Real & QC) ^A	Sample Number Taken (Real & QC)	Project Decisions (Conclusions) & Uncertainty	Comments (RIN, Analytical Method, Qualifications, etc)
					Summary All survey results are less than the applicable DCGL _w unrestricted release limits and no further investigation is required

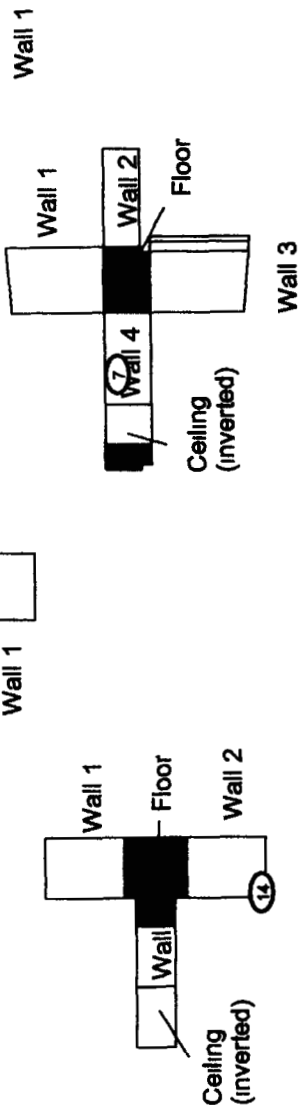
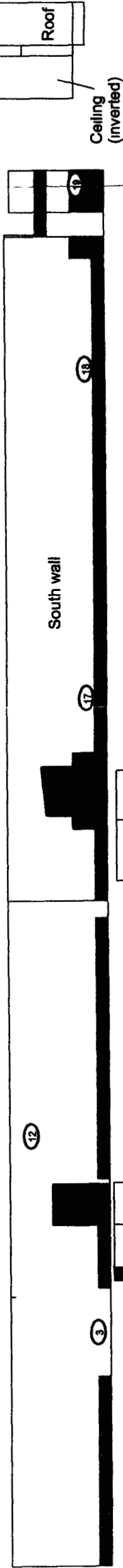
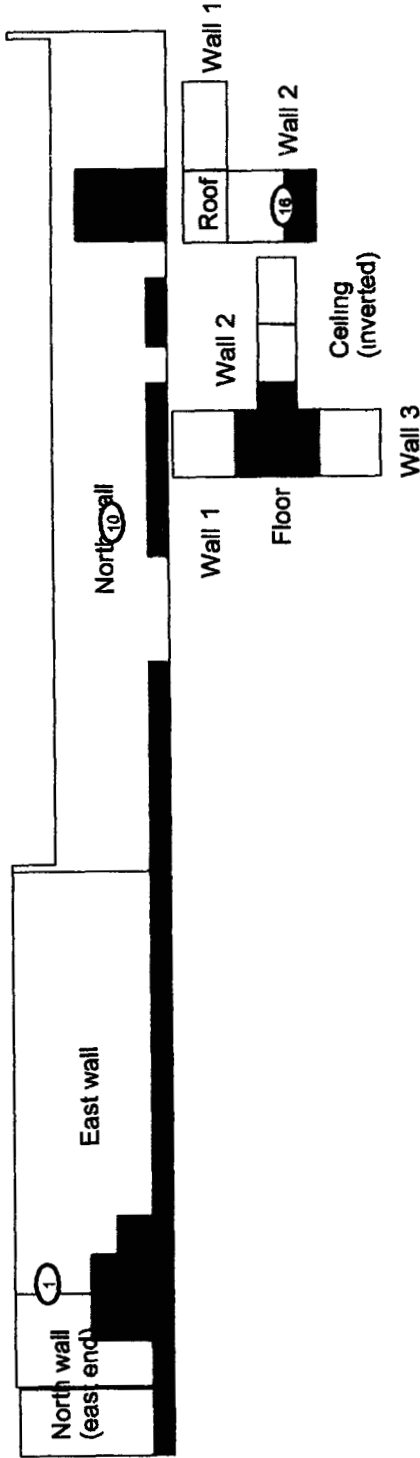
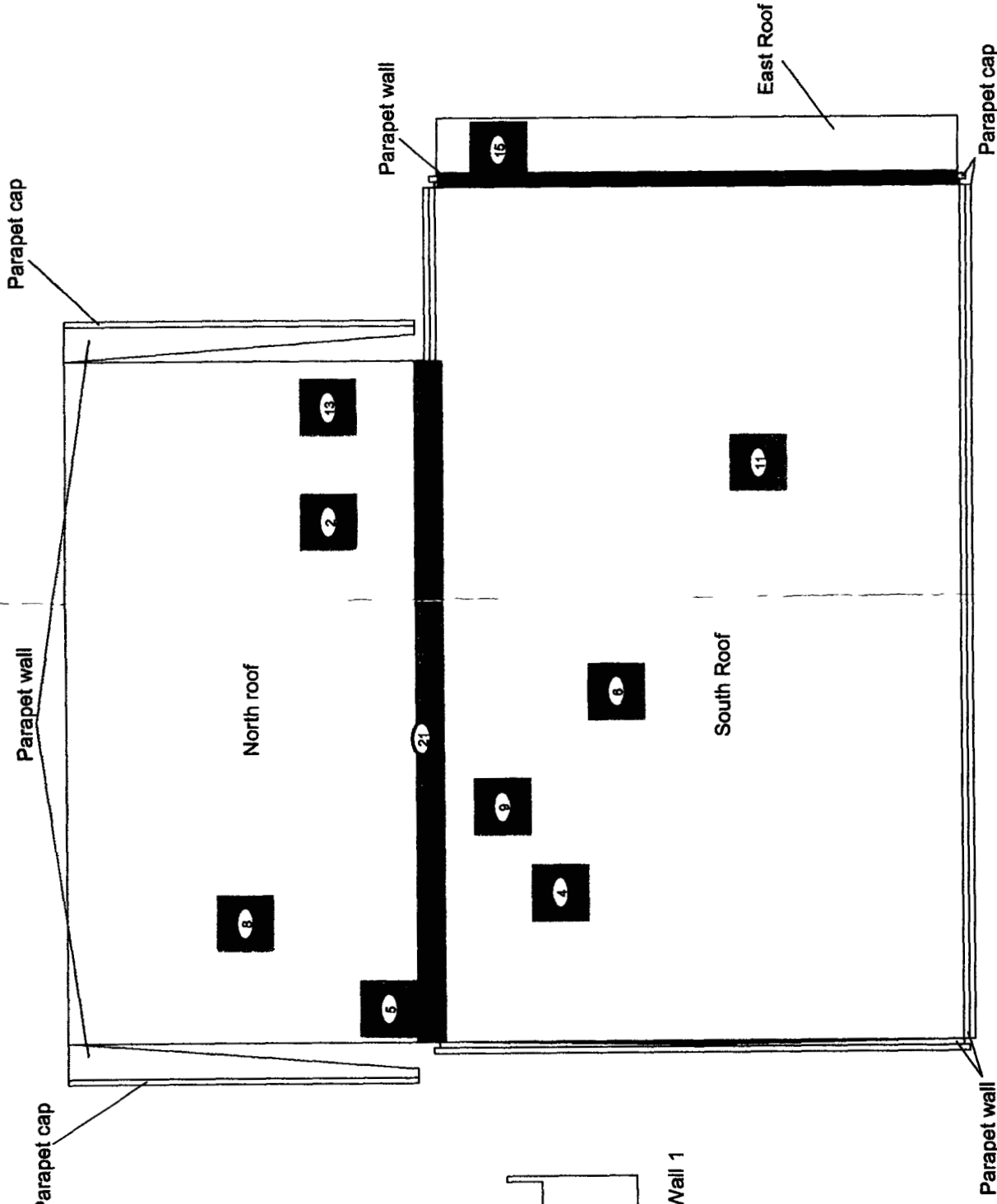
A - Asbestos Sample Number Planned was only an estimate, actual sample numbers are determined during the inspection

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PRE DEMOLITION SURVEY FOR B334 CLUSTER

Survey Area 3 Survey Unit 334-B 007 Classification 3
Building 334 West Annex Bldg
Survey Unit Description Exterior of Building Total Roof Area 940 sq m
Total Area 1447 sq m

334 West Annex Exterior



SURVEY MAP LEGEND

- Scanner & TSA Location
- Scanner, TSA & Sample Location
- Open/Inaccessible Area
- Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) 1 & 2

RCT ID #(s) 3 & 4

U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: GIB Dept. 303-888-7797
Prepared for:

MAP ID: 02-0588/234-A-0078C
October 7, 2002

FEET 0 25
METERS 0 8

1 inch = 18 feet 1 grid sq 1 sq m.

94

PRE DEMOLITION SURVEY FOR B334 CLUSTER

Survey Area 3

Survey Unit 334-A 003

Classification 3

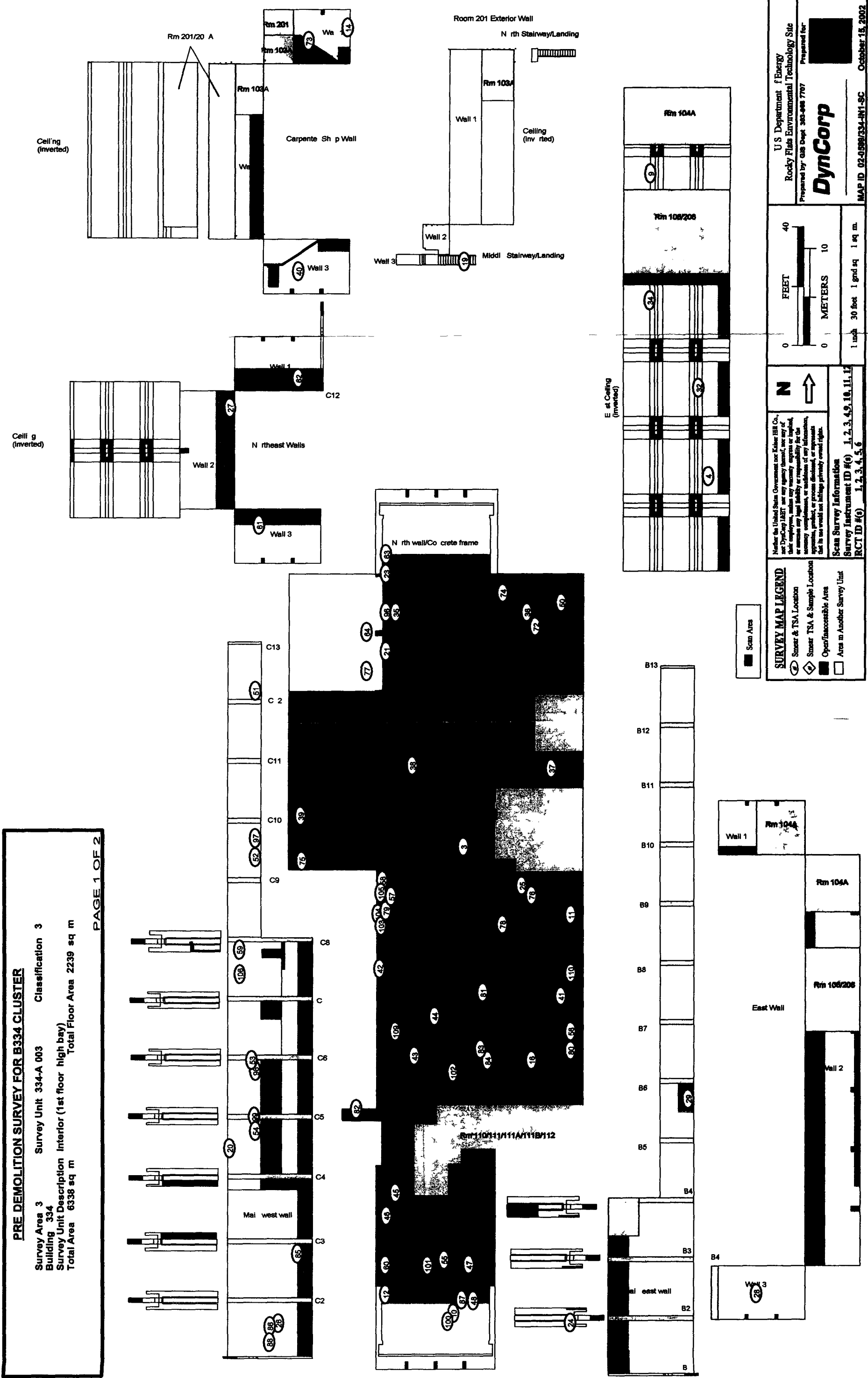
Building 334

Survey Unit Description Interior (1st floor high bay)

Total Area 6338 sq m

Total Floor Area 2239 sq m

PAGE 1 OF 2



U.S. Department of Energy

Rocky Flats Environmental Technology Site

Prepared by: GRS Dept. 388-008 7707

Prepared for: [Redacted]

DynCorp

MAP ID: 02-0598/334-4N1-SC

October 15, 2002

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FEET

0 10

METERS

1 inch 30 feet 1 sq sq 1 sq m

N

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Scan Survey Information

Survey Instrument ID #(s) 1, 2, 3, 4, 9, 10, 11, 12

RCT ID #(s) 1, 2, 3, 4, 5, 6

■ Scan Area

SURVEY MAP LEGEND

○ Scan & TSA Location

◇ Scan TSA & Sample Location

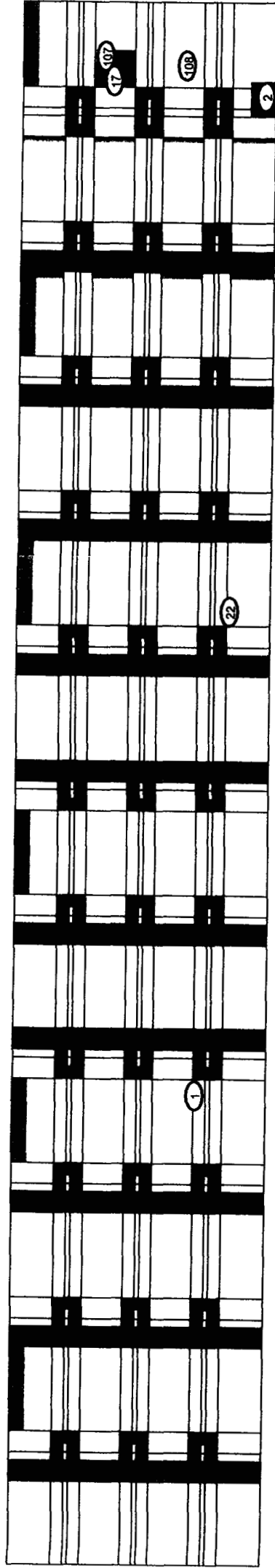
■ Open/Inaccessible Area

□ Area in Another Survey Unit

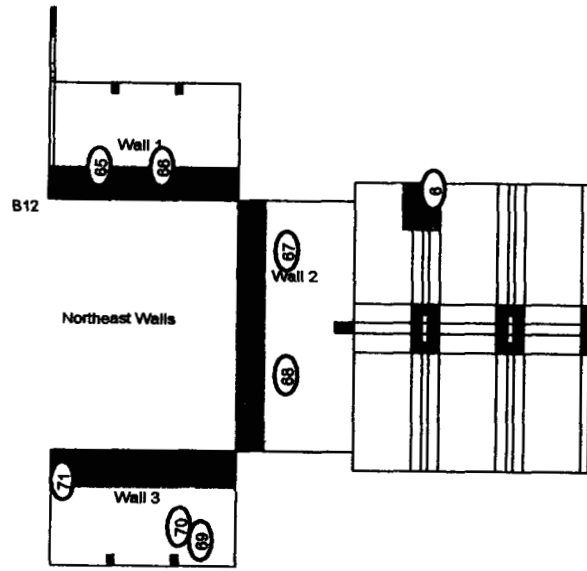
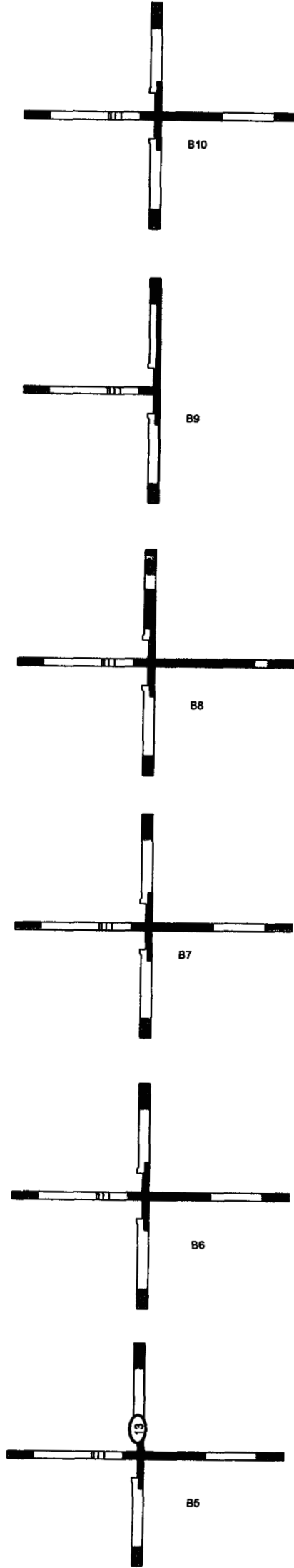
59

Survey Area 3	Survey Unit 334-A 003	Classification 3
Building 334		
Survey Unit Description	Interior (1st floor high bay)	
Total Area	6338 sq m	Total Floor Area 2239 sq m

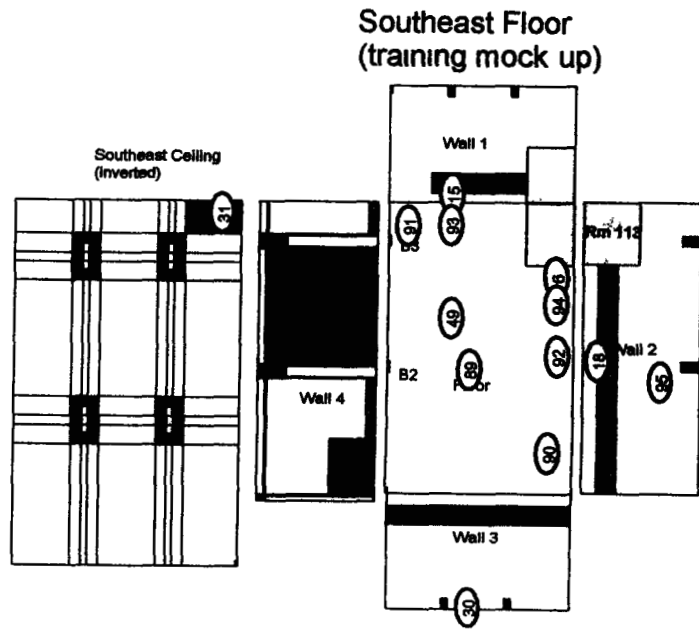
PAGE 2 OF 2



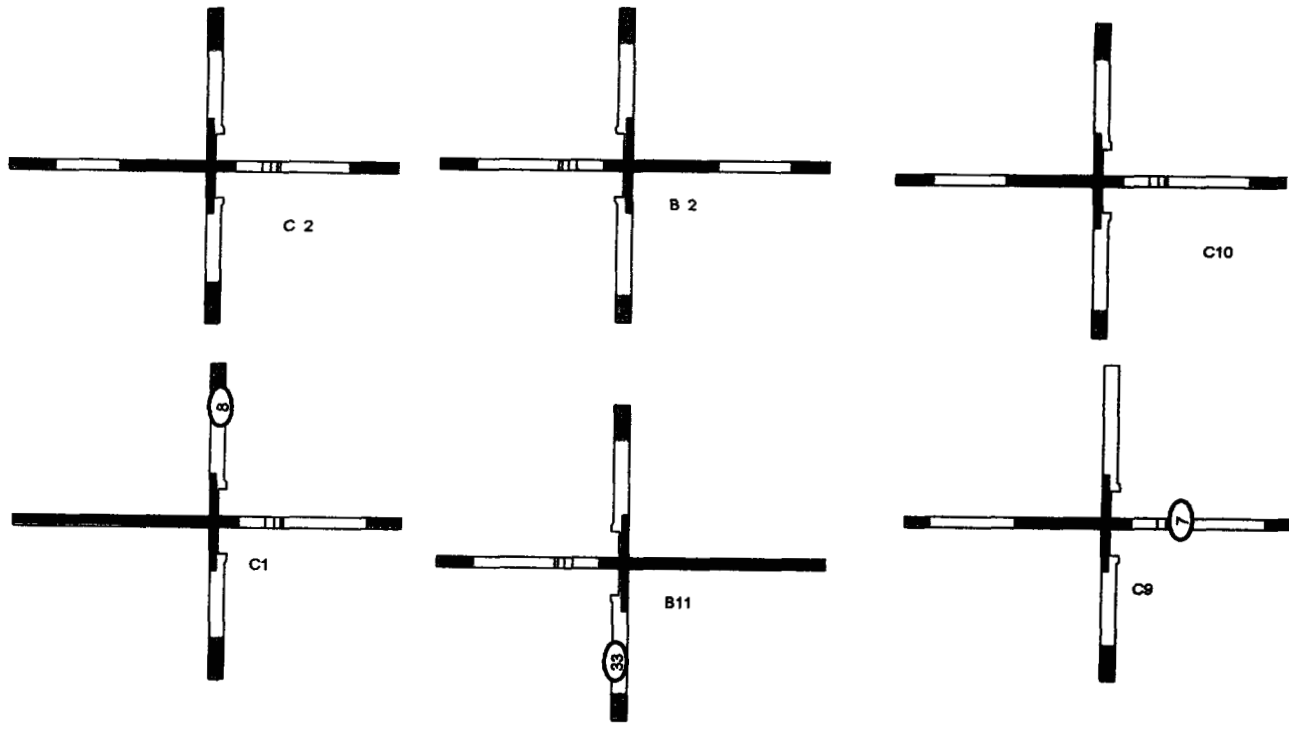
Upper Cell g
(rtd)



**Northeast Ceiling
(Inverted)**



**Southeast Floor
(training mock up)**



SURVEY MAP LEGEND

- ☒ Smear & TSA Location
☒ Smear TSA & Sample Location
☐ Open/Inaccessible Area
☐ Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) 1, 2, 3, 4, 9, 10, 11, 12
 RCT ID #(s) 1, 2, 3, 4, 5, 6

z 



1 inch 30 feet 1 gnd sq 1 sq m.

U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: GHS Dept. 303-308-7707 Prepared for:

DynCorp

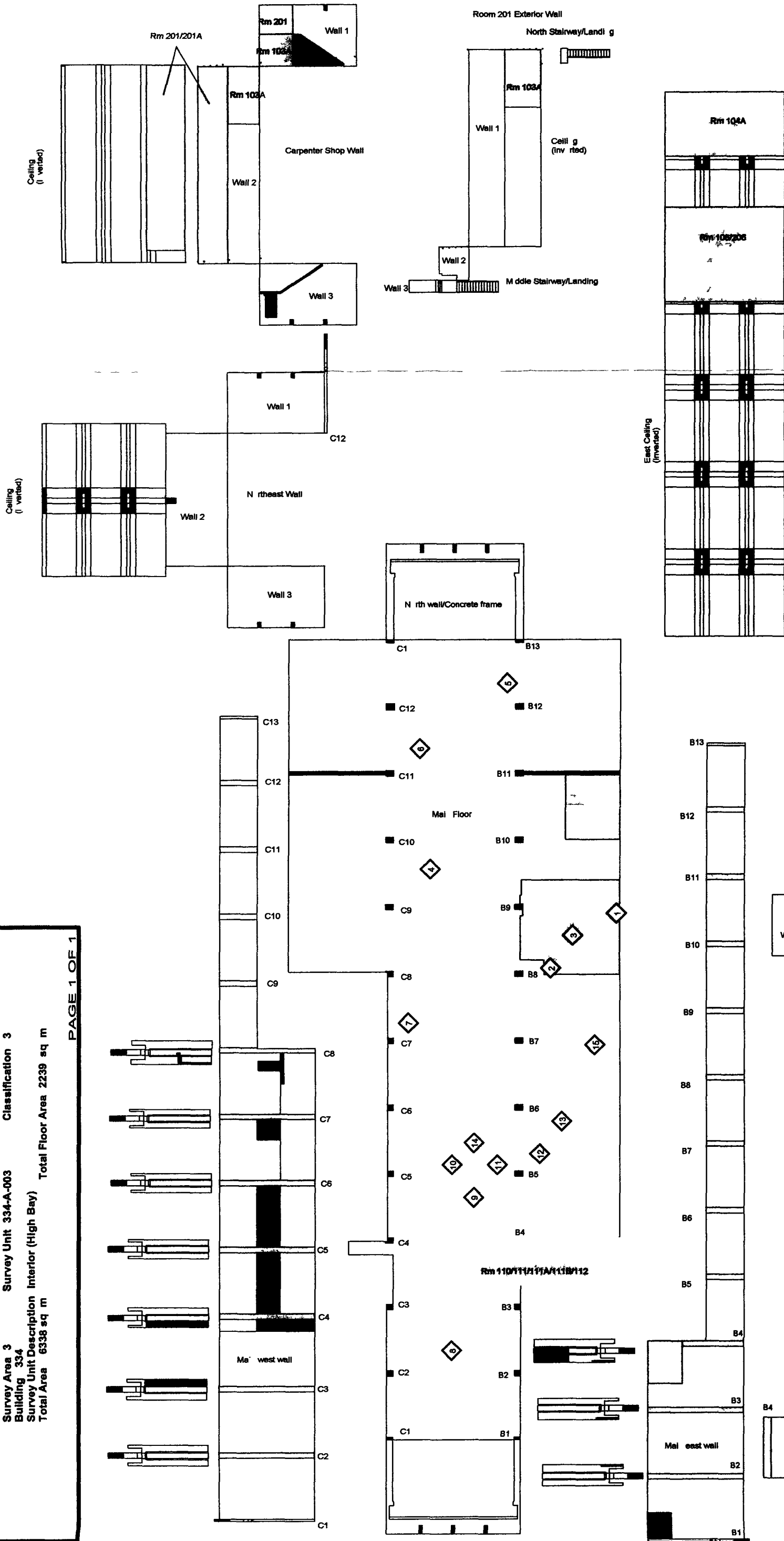
MAP ID 02-0588/S34-IN2-8C

October 15, 2002

PRE-DEMOLITION SURVEY FOR B334 CLUSTER

Survey Area 3 Survey Unit 334-A-003 Classification 3
Building 334
Survey Unit Description Interior (High Bay)
Total Area 6338 sq m Total Floor Area 2239 sq m

PAGE 1 OF 1



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0 40
FEET
0 10
METERS
1 inch 30 feet 1 grid sq 1 sq m

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that its use would not infringe privately owned rights.

Scan Survey Information
Survey Instrument ID # (s) *2/1*
RCT ID # (s)

SURVEY MAP LEGEND
● Sensor & TSA Location
◆ Media Sample Location
■ Open/Inaccessible Area
□ Area in Another Survey Unit

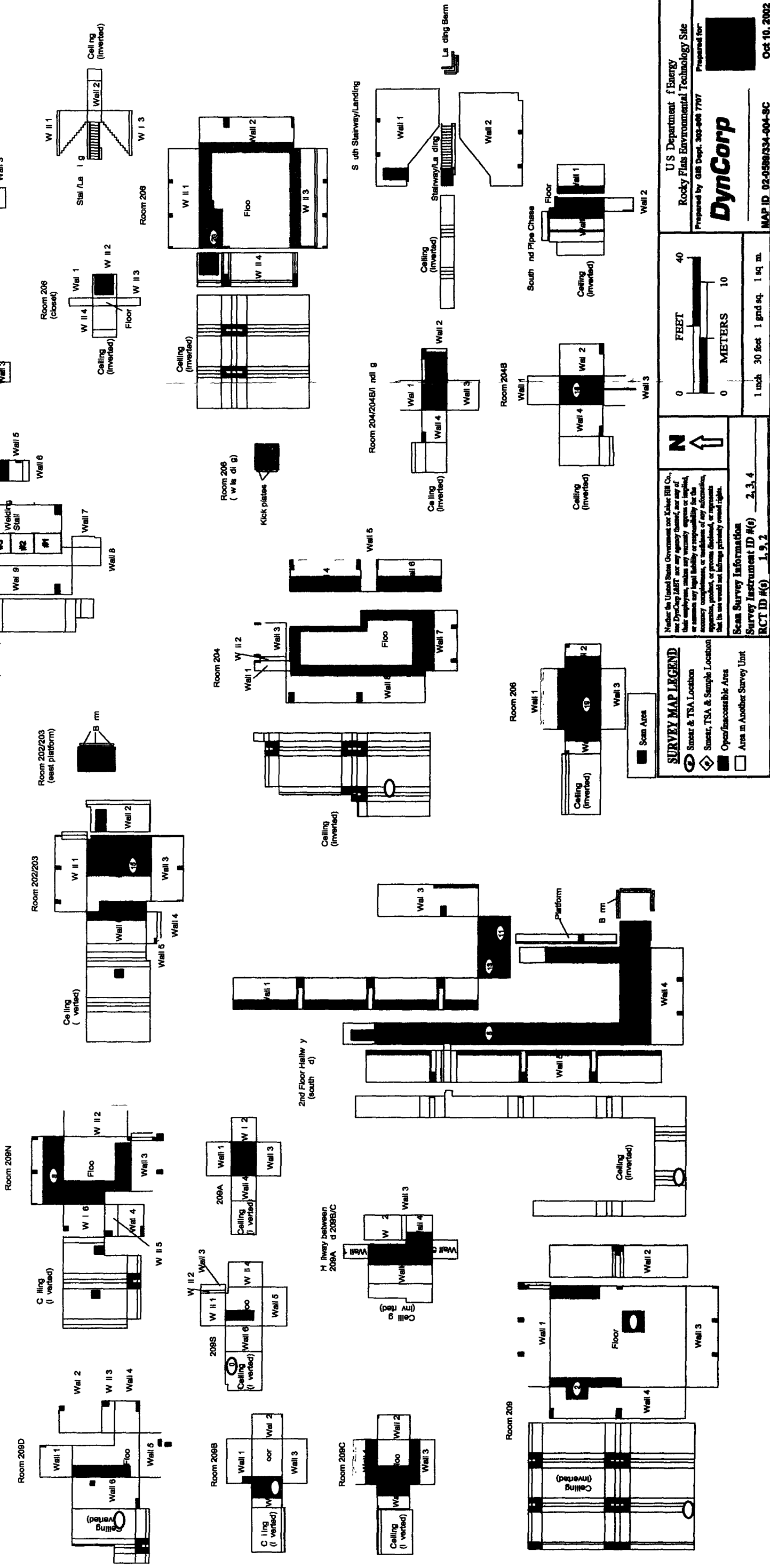
101

PRE DEMOLITION SURVEY FOR B334 CLUSTER

Survey Area 3 Survey Unit 334-A-004 Classification 3
Building 334
Survey Unit Description Interior Upper Offices
Total Area 2570 sq m Total Floor Area 475 sq m

PAGE 1 OF 1

334 Interior Upper Offices
(2nd floor)



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SURVEY MAP LEGEND
Scan Area
Scan & TSA Location
Scan, TSA & Sample Location
Open/Inaccessible Area
Area in Another Survey Unit

Survey Information
Survey Instrument ID # (s) 2, 3, 4
RCT ID # (s) 1, 2, 2

U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: 618 Dept. 300-888 7797
DynCorp
MAP ID: 02-0589/334-004-SC
Oct 10, 2002

<u>PRE DEMOLITION SURVEY FOR B334 CLUSTER</u>			
Survey Area 3	Survey Unit 334 A 005	Classification 3	
Building 334			
Survey Unit Description	Inte lor 1st floor offices		
Total Area 5031 sq m		Total Floor Area 1400 sq m	

PAGE 1 OF 4

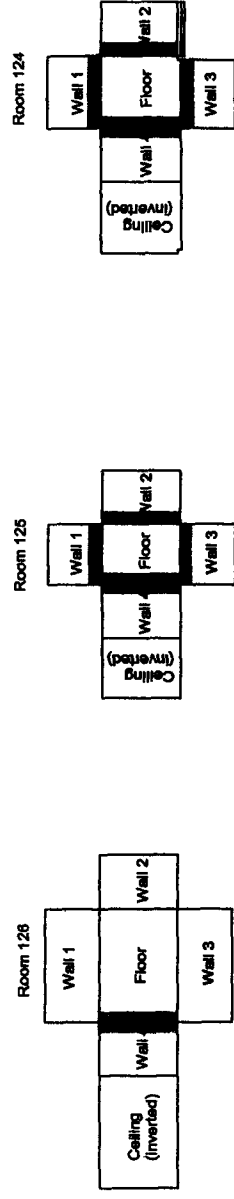
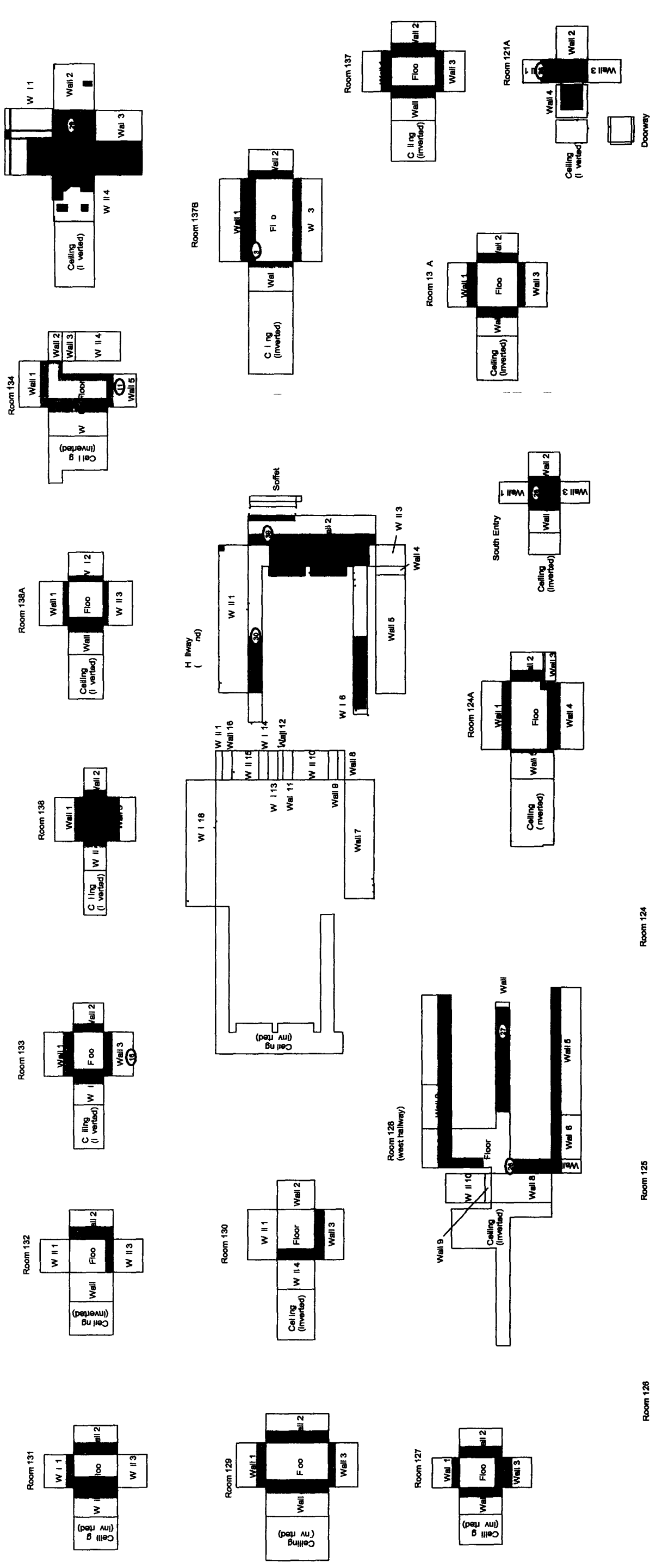
<u>PRE DEMOLITION SURVEY FOR B334 CLUSTER</u>			
Survey Area 3	Survey Unit 334 A 005	Classification 3	
Building 334			
Survey Unit Description	Inte lor 1st floor offices		
Total Area 5031 sq m		Total Floor Area 1400 sq m	

PAGE 1 OF 4

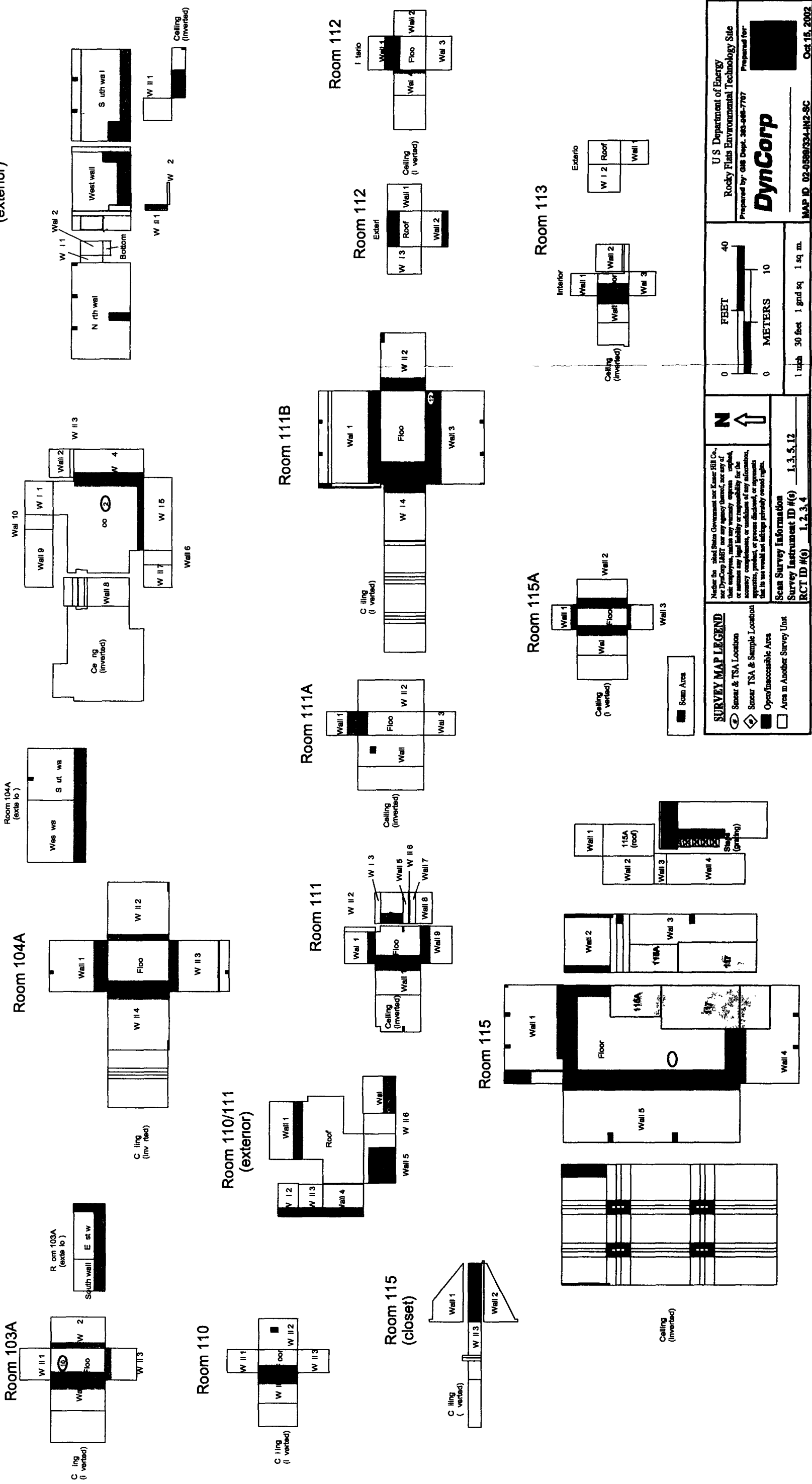
<u>PRE DEMOLITION SURVEY FOR B334 CLUSTER</u>			
Survey Area 3	Survey Unit 334 A 005	Classification 3	
Building 334			
Survey Unit Description	Inte lor 1st floor offices		
Total Area 5031 sq m		Total Floor Area 1400 sq m	

PAGE 1 OF 4

**334 Interior
(west annex)**



<div style="border: 1px solid black; padding: 5px; margin-bottom: 10px;"> <div style="display: flex; align-items: center;"> <div style="width: 15px; height: 15px; background-color: black; margin-right: 5px;"></div> Scan Area </div> </div>	<p><u>SURVEY MAP LEGEND</u></p> <p><input checked="" type="checkbox"/> Sensor & TSA Location</p> <p><input checked="" type="checkbox"/> Sensor TSA & Sample Location</p> <p><input checked="" type="checkbox"/> Open/Inaccessible Area</p> <p><input type="checkbox"/> Area in Another Survey Unit</p>	<p>Neither the United States Government nor Kvaerner HILL Co., nor DynaCorp EAST nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights.</p>	<p style="text-align: center; font-size: 2em;">N</p> <p style="text-align: center; font-size: 2em;">↑</p>		<p style="text-align: right;"> 1 inch 30 feet 1 grid sq 1 sq. m. </p>	<p style="text-align: center;"> U S Department of Energy Rocky Flats Environmental Technology Site Prepared by: G18 Dept. 303-688-7707 Prepared for: XXXXXXXXXX </p>	<p style="text-align: center; font-size: 2em;">DynaCorp</p>	<p style="text-align: right;"> MAP ID 02-05997334-INT-SC Oct 15, 2002 </p>
		<p>Scan Survey Information</p> <p>Survey Instrument ID #(s) <u>1, 3, 5, 12</u></p> <p>RCT ID #(s) <u>1, 2, 3, 4</u></p>						



PRE DEMOLITION SURVEY FOR B334 CLUSTER

Survey Area 3

Building 334

Survey Unit Description Interior 1st floor offices

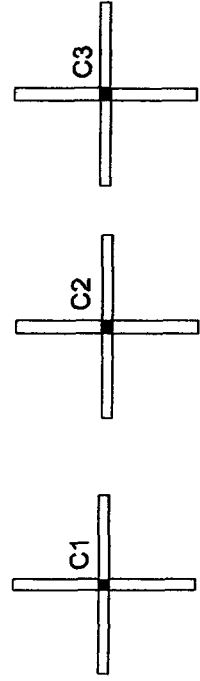
Total Area 5031 sq m

Survey Unit 334-A 005

Classification 3

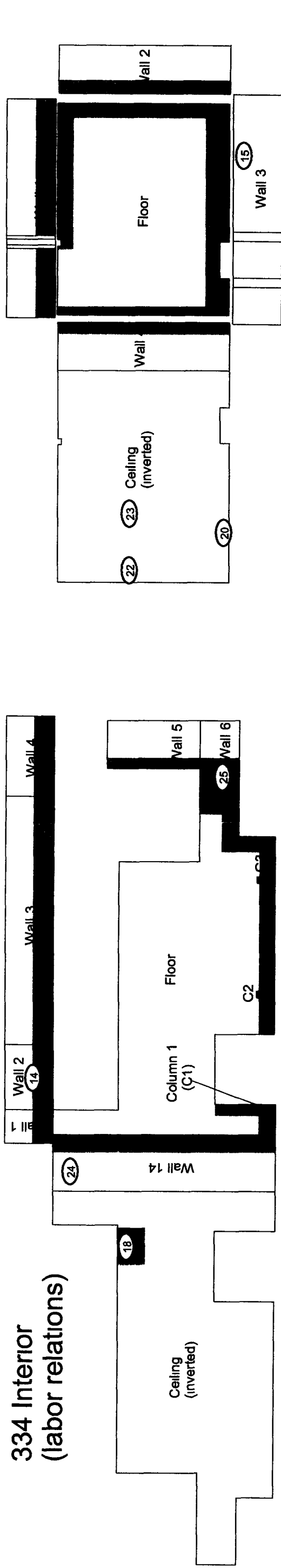
Total Floor Area 1400 sq m

PAGE 3 OF 4



334 Interior (Credit Union)

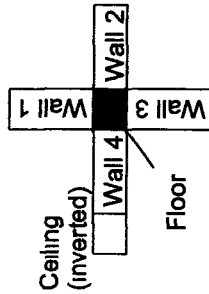
334 Interior (labor relations)



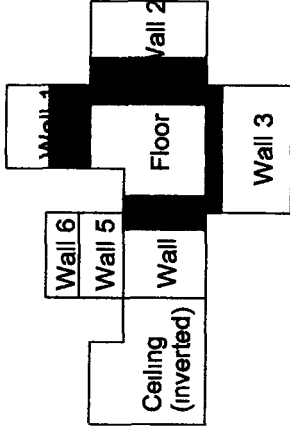
Room 146



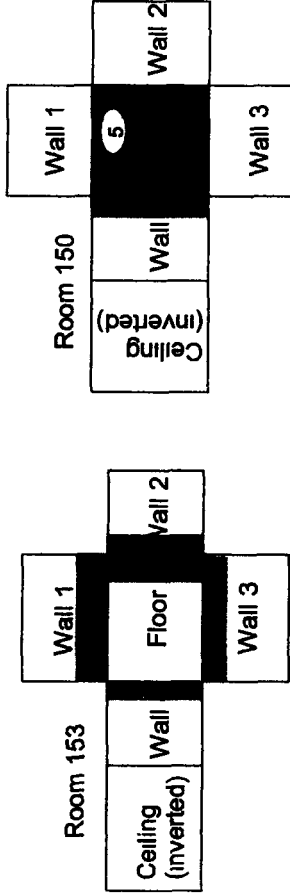
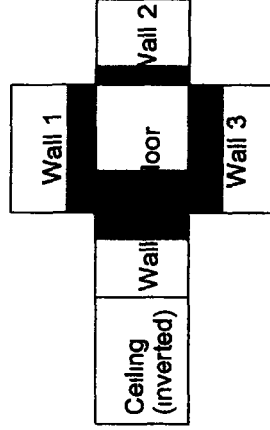
Room 151
(closet)



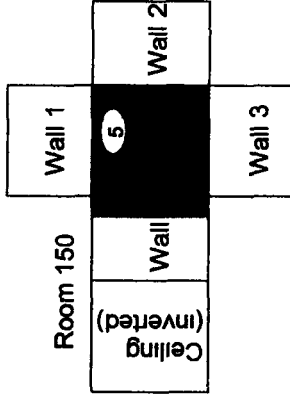
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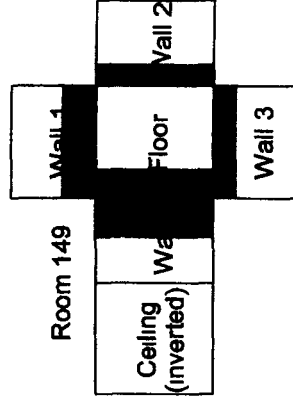
Room 152



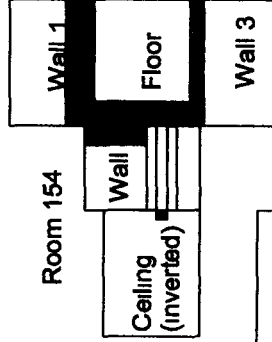
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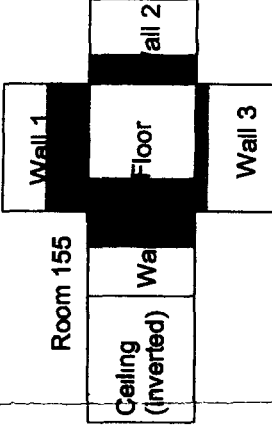
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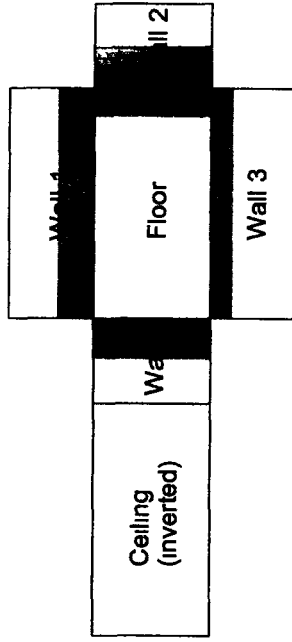
Room 149



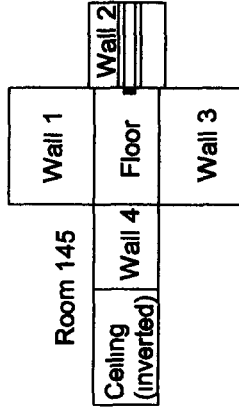
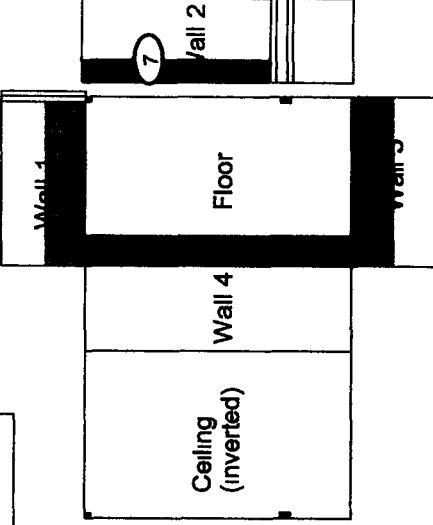
Room 154



Room 155



Room 147/148



Room 145

SURVEY MAP LEGEND

Smear & TSA Location

Smear TSA & Sample Location

Open/Accessible Area

Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) 1, 3, 5, 12

RCT ID #(s) 1, 2, 3, 4

U.S. Department of Energy

Rocky Flats Environmental Technology Site

Prepared by: 018 Dept. 302-986-7767

DynCorp

MAP ID: 02-0589/334-IN3-SC

Oct 15, 2002

51

PRE DEMOLITION SURVEY FOR B334 CLUSTER

Survey Area 3

Building 334

Survey Unit Description

Total Area 5031 sq m

Survey Unit 334 A 005

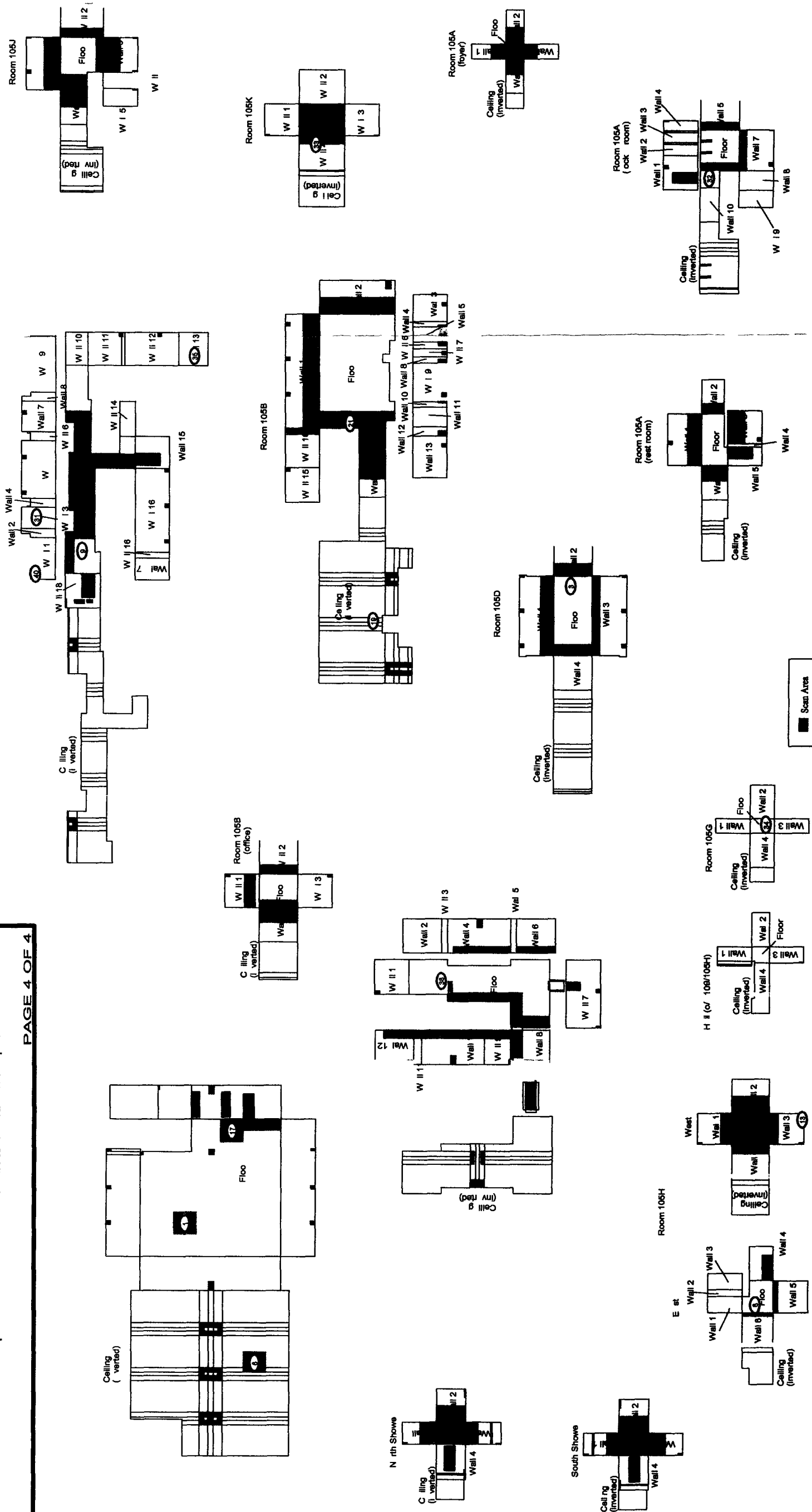
Interior 1st floor offices

Total Floor Area 1400 sq m

Classification 3

PAGE 4 OF 4

334 Interior
(men's locker room)



U.S. Department of Energy

Rocky Flats Environmental Technology Site

Prepared by GRS Dept 303-908 7707

Prepared for

DynCorp

MAP ID 02-0899/334-1M4-SC

Oct 15, 2002

0 40

0 10

1 inch 30 feet 1 grid sq 1 sq m.

N

1, 3, 5, 12

1, 2, 3, 4

Survey Map Legend

Survey & TSA Location

Survey, TSA & Sample Location

Open/Inaccessible Area

Area in Another Survey Unit

Survey Information

Survey Instrument ID # (s)

RCT ID # (s)

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Survey Information

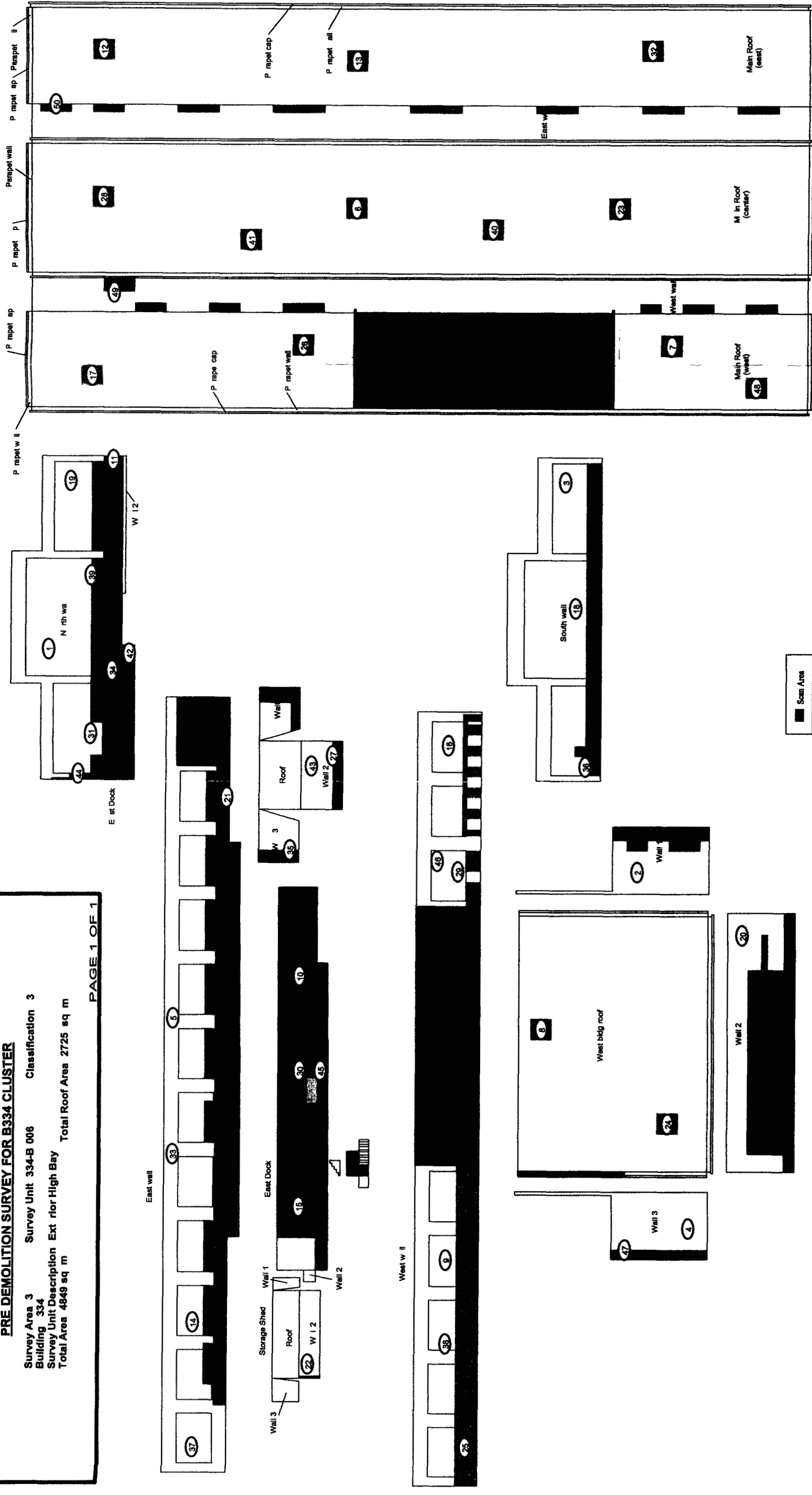
Survey Instrument ID # (s)

RCT ID # (s)





76

Survey Area	Survey Unit	Classification
334	334-B 008	3
Building		
Survey Unit Description	Ext prior High Bay	
Total Area	4949 sq m	Total Roof Area 2725 sq m

PAGE 1 OF 1



SURVEY MAP LEGEND

-  Smear & TSA Location
-  Smear, TSA & Sample Location
-  Open/Inaccessible Area
-  Area in Another Survey Unit

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Scan Survey Information

Survey Instrument ID #(s) 9, 10, 11
RCT ID #(s) 5, 6, 9



U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: GIS Dept. 303-966 7707 Prepared for:

Prepared by: GIS Dept. 303-908 7707

DynCorp

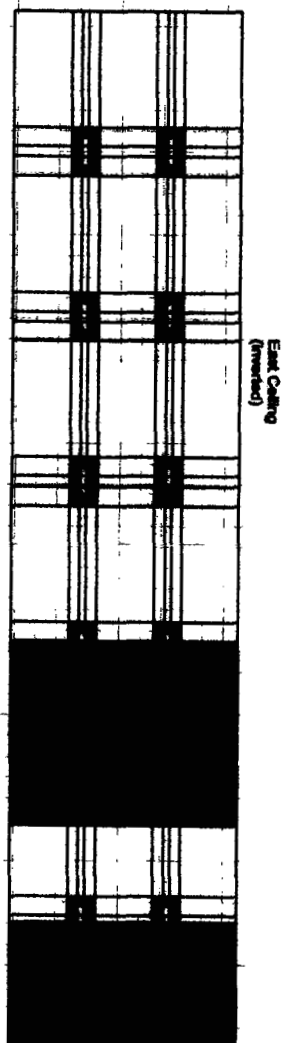
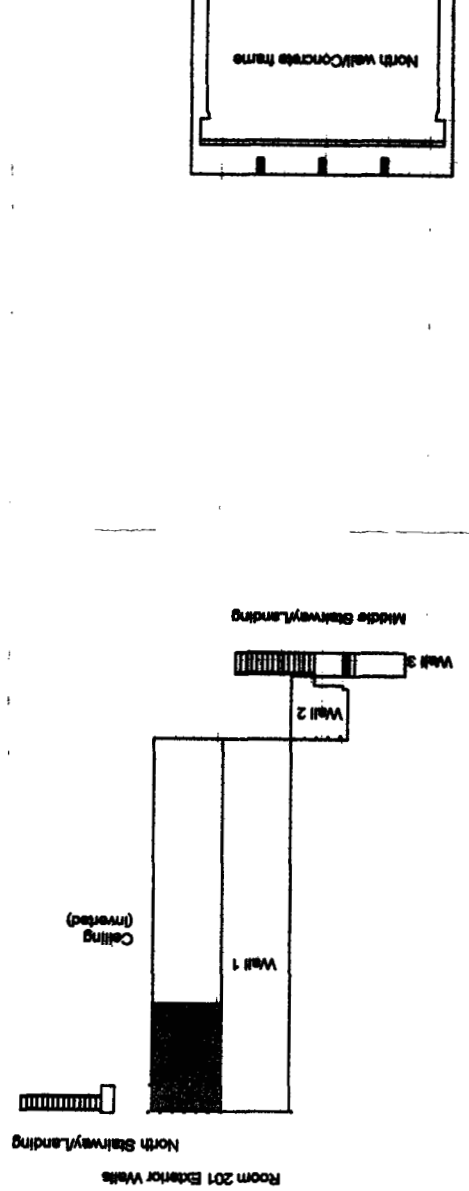
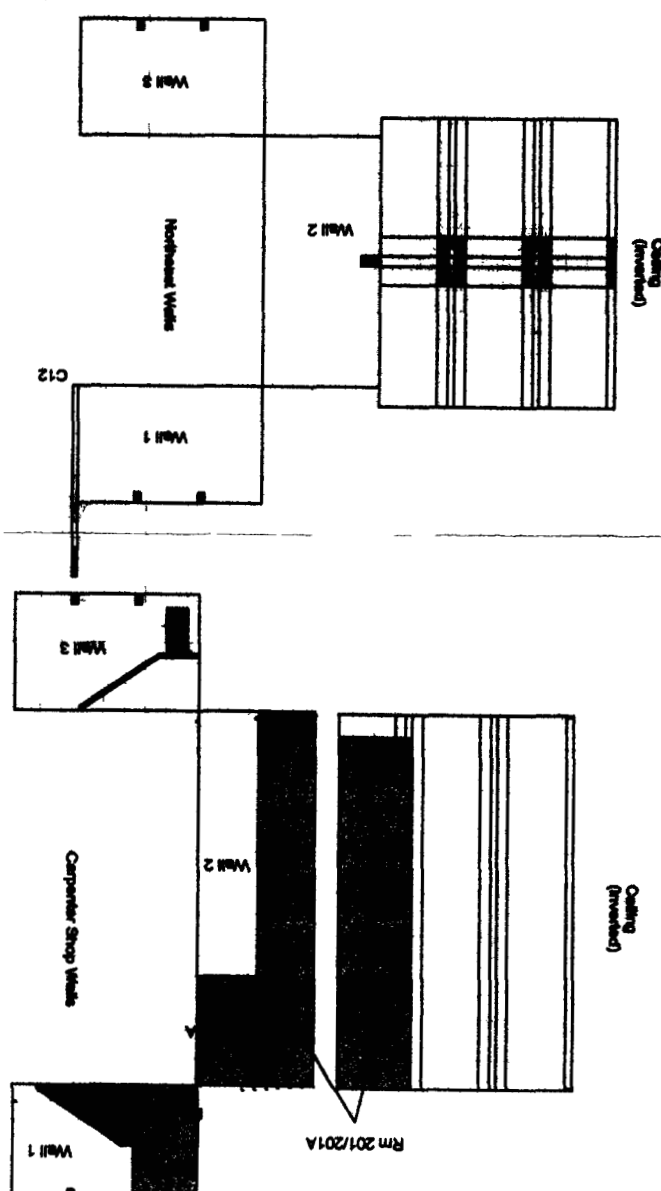
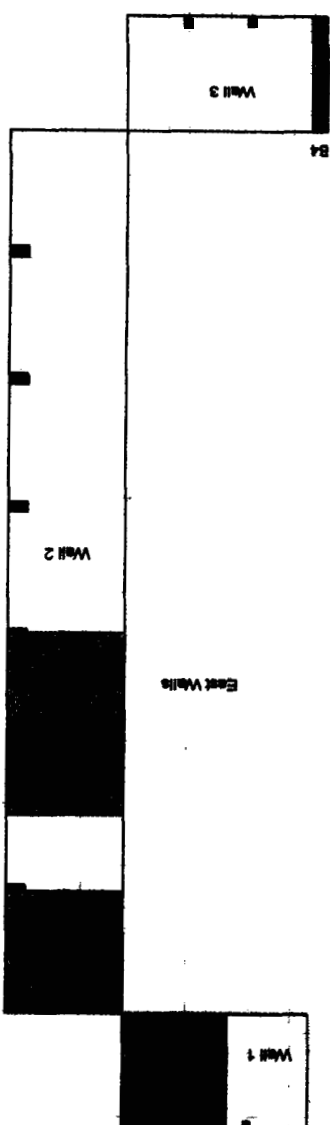
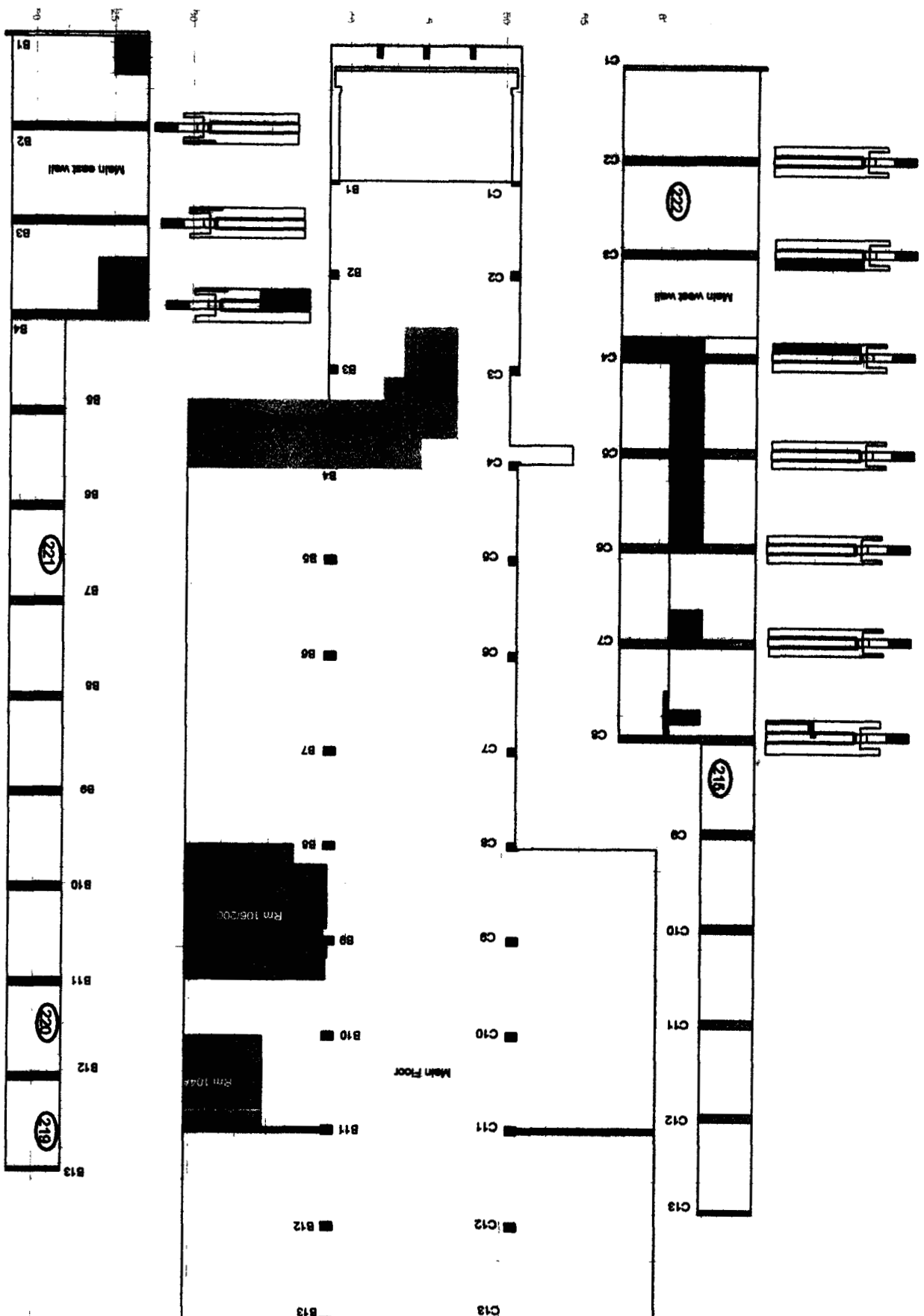
MAP ID 02-0588/334-008-SC

Oct 10, 2002

CHEMICAL SAMPLE MAP

Building 334 Interior

PAGE 1 OF 1



SURVEY MAP LEGEND

Asbestos Sample Location
Bulk/Burn Sample Location
Lead Sample Location
PCB Sample Location

Open/Inaccessible Area
Area in Another Survey Unit

U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by GRS Data, 200-498-7787
Prepared for:
MAP ID: 02-0500734-INTASB
Sept 10, 2002

1 inch = 30 feet 1 grid sq = 1 sq m.

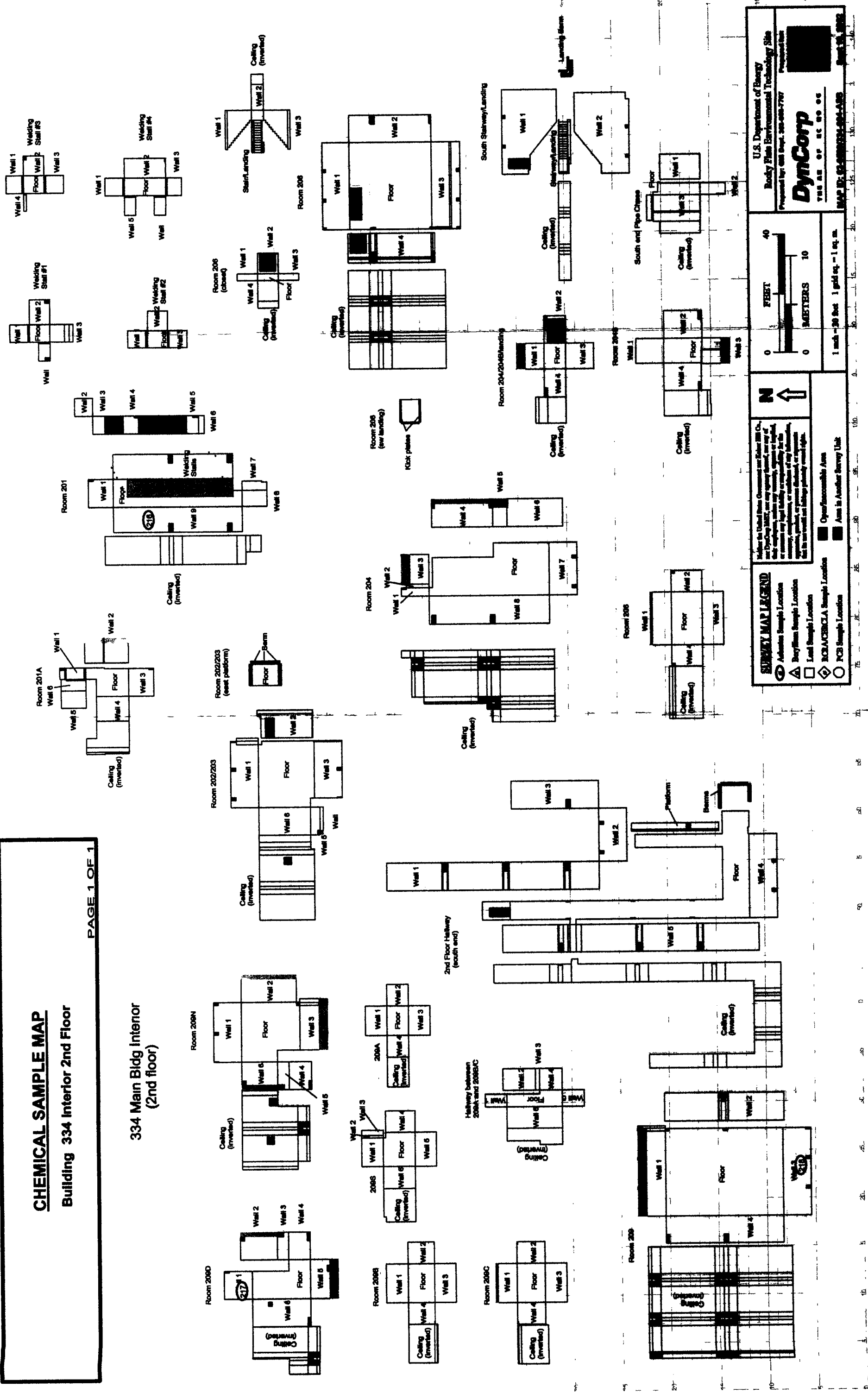
0 10 40
FEET
0 10
METERS

North Arrow

97

Building 334 Interior 2nd Floor

**334 Main Bldg Interior
(2nd floor)**



PAGE 1 OF 2

[illegible]

U.S. Department of Energy
Rocky Flats Environmental Technology Site

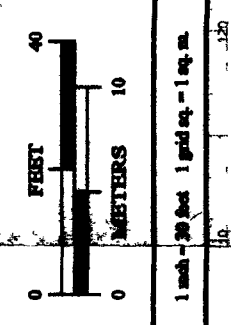
Prepared for: GRS Dept. 388-908-7787


DynCorp

THE ART OF TECHNOLOGY

GRS DE: 388-908-7787-411-433






8/28/88





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Open Accessible Area
 Area in Another Survey Unit

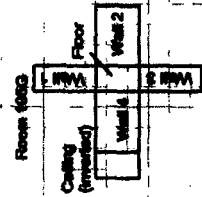
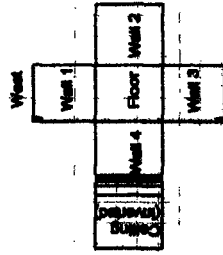
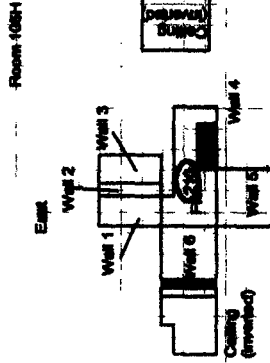
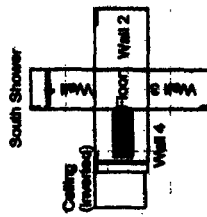
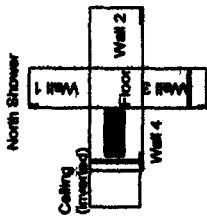
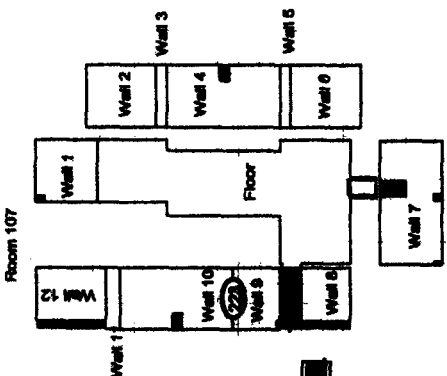
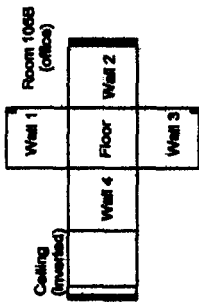
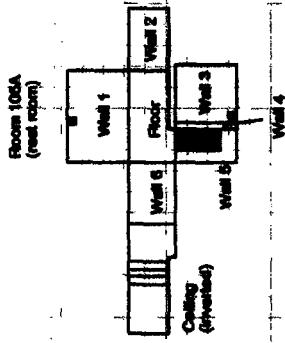
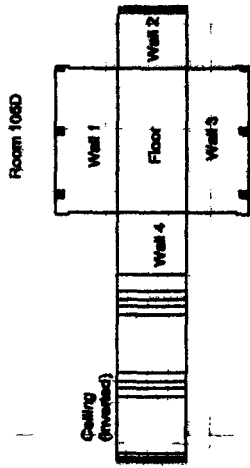
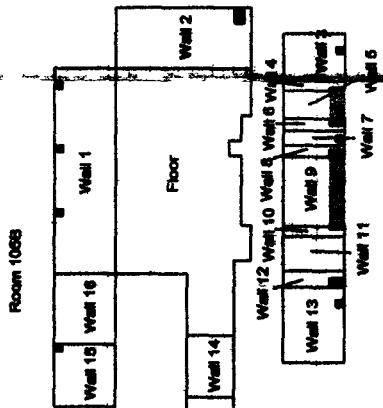
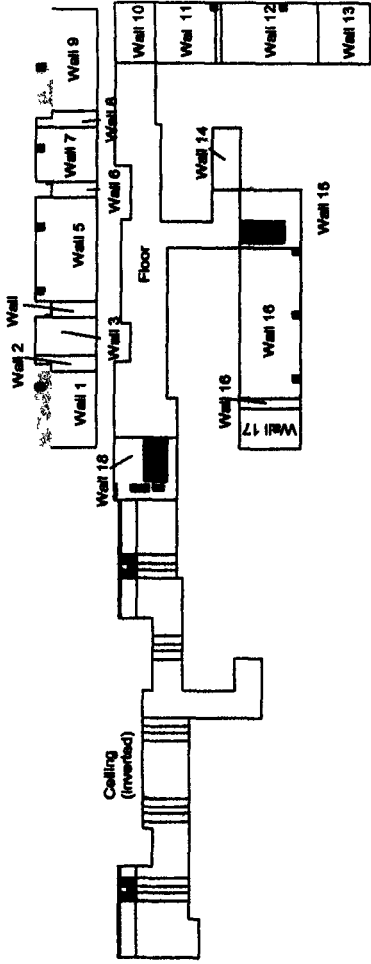
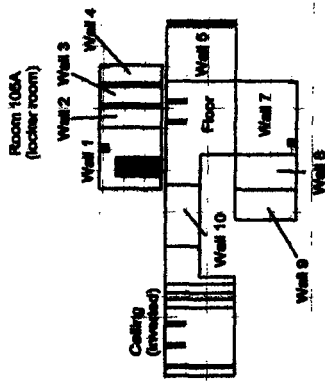
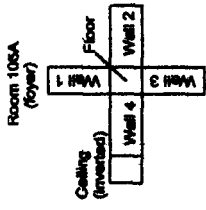
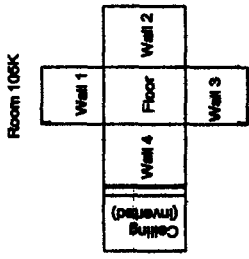
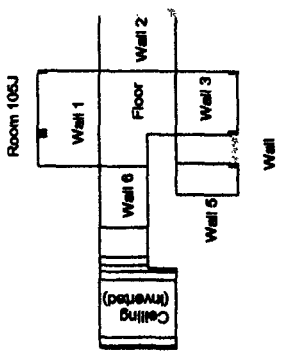
- SURVEY MAP LEGEND**
- | | |
|---|-------------------------------|
|  | Asbestos Sample Location |
|  | Beryllium Sample Location |
|  | Lead Sample Location |
|  | NICKEL/COBALT Sample Location |
|  | PCB Sample Location |

CHEMICAL SAMPLE MAP

Building 334 Interior

PAGE 2 OF 2

334 Interior
(men's locker room)



U.S. Department of Energy
Rocky Flats Environmental Technology Site
Prepared by: GRS Dept. 389-008-7787
Project: 105
MAP ID: 92-00000001-004-003
Rev: 1.0

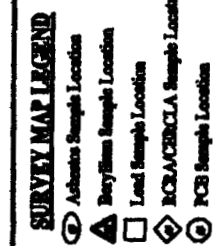
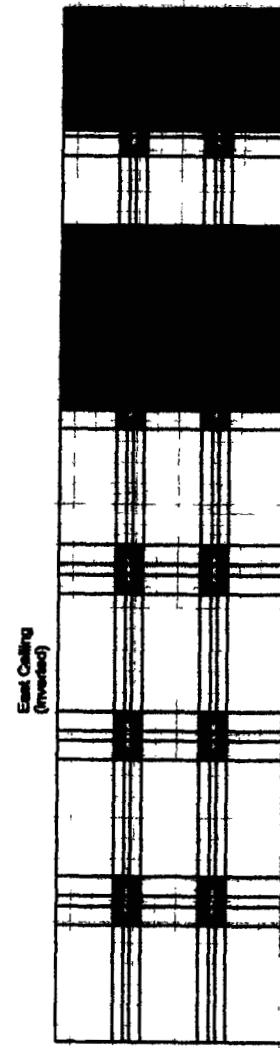
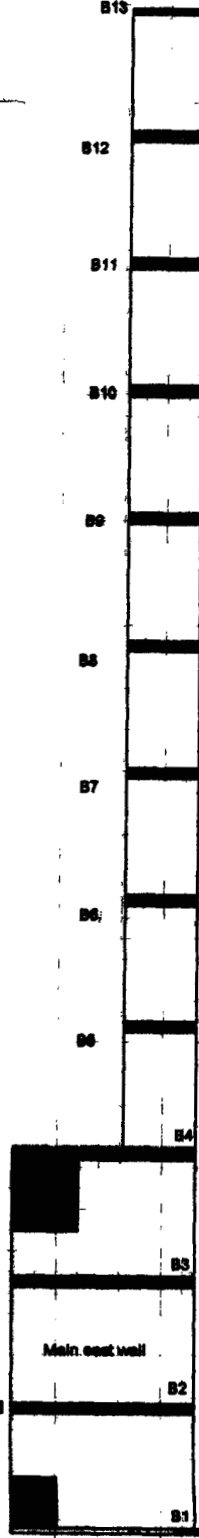
DynCorp
YES we are different

0 40 FEET
0 10 METERS
1 inch = 30 feet 1 grid sq. 1 sq. m.

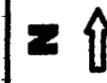
SURVEY MAP LEGEND
Admission Sample Location
Biological Sample Location
Lead Sample Location
RADAC/CECLA Sample Location
PCS Sample Location
Open/Removable Area
Area in Another Survey Unit

North Arrow

Building 334 Interior



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Rocky Flats Environmental Technology Site**

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MAP ID: C-60974-SIDE

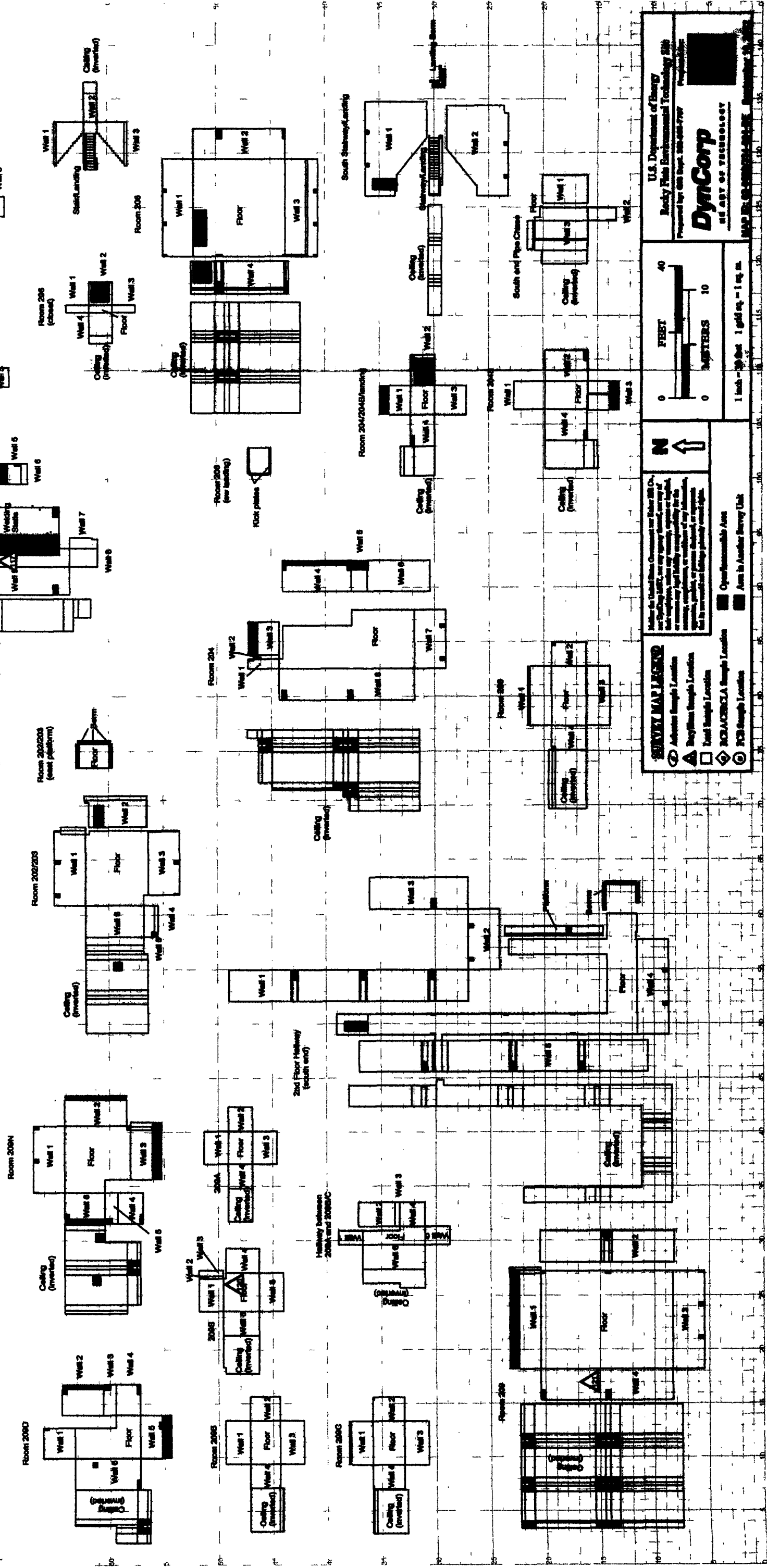
87

CHEMICAL SAMPLE MAP

Building 334 Interior 2nd Floor

PAGE 1 OF 1

334 Main Bldg Interior
(2nd floor)



PAGE 3 OF 3

